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Signed BE memo.pdf
map and Proc 74635.pdf
74635 Bib.pdf
Memo to President GSENM Aug 15 1996.pdf

And here are the memos for GSENM and Bears Ears (along with the map, proc, and bibliography for the latter).
That's all for now. Sorry to bombard.

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202-208-3495

Bears Ears Bibliography

Aasen, D.K. 1984. Pollen, macrofossil and charcoal analysis of Basketmaker coprolites from Turkey Pen Ruin, Cedar Mesa, Utah. (Masters Thesis, Washington State University, Department of Anthropology). 73 Pp.

Abel, A.H. (Ed.) 1915. The official correspondence of James S. Calhoun while Indian agent at Santa Fe and superintendent of Indian affairs in New Mexico. Government Printing Office, Washington DC.

Agenbroad, L.D. 1975. The Alluvial geology of upper Grand Gulch, Utah; its relationship to Anasazi inhabitation of the Cedar Mesa area. Four Corners Geological Society, 8th Field Conference, Canyonlands.

Ahlstrom, R.V.N. 1985. The interpretation of archaeological tree-ring dates. (Doctoral dissertation, University of Arizona, Department of Anthropology). 688 Pp.

Aitchison, S. 2014. A natural history of Cedar Mesa. Archaeology Southwest 28(3-4): 8-11.

Albee, H.F. 1957. Comparison of the pebbles of the Shinarump and Moss Back Members of the Chinle Formation. Journal of Sedimentary Research,27(2).

Allphin, L. and K.T. Harper. 1994. Habitat requirements for Erigeron kachinensis, a rare endemic of the Colorado Plateau. Great Basin Naturalist 54(3):193-203.

Allphin, L. and K.T. Harper. 1997. Demography and life history characteristics of the rare Kachina daisy (Erigeron kachinensis, Asteraceae). The American Midland Naturalist 138 (1):109-120.

Allphin, L., Wiens, D., & Harper, K. 2002. The Relative Effects of Resources and Genetics on Reproductive Success in the Rare Kachina Daisy, Erigeron kachinensis (Asteraceae). International Journal of Plant Sciences, 163(4), 599-612

Allphin, L., M.D. Windham, and K.T. Harper. 1996. A Genetic evaluation of three potential races of the rare Kachina daisy. Pp. 68-76 In Southwestern Rare and Endangered Plants: Proceedings of the Second Conference, September 11-14, 1995, Flagstaff, AZ. USDA Forest Service General Technical Report RM-GTR-283.

Ash, S.R. 1975. The Chinle (Upper Triassic) flora of southeastern Utah. Four Corners Geological Society Guidebook, 8th Field Conference, Canyonlands. Pp. 143-148.

Atkins, V.M.(Ed.). 1990. Anasazi Basketmaker: Papers from the 1990 Wetherill-Grand Gulch Symposium. Cultural Resources Series No. 24, Bureau of Land Management, Salt Lake City, Utah. 329 Pp.

Aton, J.M. and R.S. McPherson. 2000. River flowing from the sunrise: an environmental history of the lower San Juan. University of Utah Press, Logan. 216 Pp.

Baars, D.L. 1973. Permianland: the rocks of Monument Valley. New Mexico Geological Society Guidebook 24:68-71.

Baars, D.L. and G.M. Stevenson. 1981. Tectonic evolution of western Colorado and eastern Utah. Pp. 105-112 in Epis, R.C. and J.F. Callender, Eds., Western Slope (Western Colorado), New Mexico Geological Society 32nd Annual Fall Field Conference Guidebook.

Baker, A.A., C.H. Dane, J.B. Reeside Jr. 1933. Paradox formation of eastern Utah and western Colorado. AAPG Bulletin 17(8):963-980

Bedell, M.L. 2000. Late Pueblo II and Pueblo III cliff dwellings and community patterns in the Grand Gulch, southeastern Utah. (Masters thesis, Washington State University, Department of Anthropology). 337 Pp.

Bennett, H.S. 1954. Photogeologic map of the Elk Ridge-15 [Hotel Rock] quadrangle, San Juan County, Utah. U.S. Geological Survey, Department of the Interior. Salt Lake City.

Benson, C. 1984. Explaining organizational change: Anasazi community patterns. (Doctoral dissertation, Washington State University, Department of Anthropology). 486 Pp.

Blackburn, F.M. 2014. Early archaeological expeditions in greater Cedar Mesa. Archaeology Southwest 28(3-4): 12-14.

Blackburn, F.M. and V.A. Atkins. 1993. Applying inscriptions to reconstruct historical archaeological expeditions. Pp. 41-100 in Atkins, V.A., Anasazi Basketmaker: Papers from the 1990 Wetherill-Grand Gulch Symposium. Cultural Resource Series No. 24, Bureau of Land Management, Salt Lake City.

Blackburn, F. M., & Williamson, R. A. (1997). Cowboys and Cave Dwellers Basketmaker Archaeology in Utah's Grand Gulch. School of American Research Press, Santa Fe.

Blakey, R.C. 2009. Paleogeography and geologic history of the western ancestral Rocky Mountains, Pennsylvanian-Permian, southern Rocky Mountains and Colorado Plateau. Pp. 222-264 in The Paradox Basin Revisited – New Developments in Petroleum Systems and Basin Analysis.

Bloomer, W.W. 1989. Moon House: a Pueblo III period cliff dwelling complex in southeastern Utah. (Master of Arts thesis, Washington State University, Department of Anthropology). 213 Pp.

Bradish, B.B. 1952. Geology of the Monument Upwarp. In Geological Symposium of the Four Corners Region. Pp. 47-59.

Brand, M.J. 1994. Prehistoric Anasazi diet: a synthesis of archaeological evidence. (Master's Thesis, University of British Columbia, Department of Anthropology and Sociology). 113 Pp.

Bredthauer, A.V. 2010. A towering enigma: an examination of late Pueblo II and Pueblo III towers in the northern San Juan region. (Masters thesis, University of Colorado, Department of Anthropology). 245 Pp.

Bryce, W.D. 2010. East meets west: an analysis of style in Basketmaker II flaked stone technology. (Master of Arts Thesis, Northern Arizona University, Anthropology). 292 Pp.S

Bureau of Land Management. 1991. Utah Statewide Wilderness Study Report.

Butler, B.S., G.F. Loughlin, V.C. Heikes, et al. 1920. The ore deposits of Utah. United States Geological Survey Professional Paper 111. Washington.

Cameron, C.M. 2009. Chaco and After in the Northern San Juan: Excavations at the Bluff Great House. University of Arizona Press. 343 Pp.

Camilli, E.L. 1983. Site occupational history and lithic assemblage structure: an example from southeastern Utah. (Doctoral dissertation, University of New Mexico, Department of Anthropology). 383 Pp.

Camilli, E. 1989. The occupational history of sites and the interpretation of prehistoric technological systems: an example from Cedar Mesa, Utah. Time, energy and stone tools, 17-26.

Campos, P. F., Willerslev, E., Mead, J. I., Hofreiter, M. and Gilbert, M. T. P. 2010 (January): Molecular identification of the extinct mountain goat, Oreamnos harringtoni (Bovidae).*Boreas,* Vol. 39, pp. 18–23. https://www.academia.edu/12849859/Molecular_identification_of_the_extinct_mountain_goat_Oreamnos_harringtoni_Bovidae

Chaney, D.S., S.G. Lucas, and S. Elrick. 2013. New occurrence of an arthropleurid trackway from the lower Permian of Utah. Pp. 64-65 in Lucas, S.G. et al., eds., New Mexico Museum of Natural History and Science Bulletin 60.

Charles, M.C. and S.J. Cole. 2006. Chronology and cultural variation in Basketmaker II. Kiva 72(2):167-216,

Chisholm, B., and R.G. Matson. 1994. Carbon and nitrogen isotopic evidence on Basketmaker II diet at Cedar Mesa, Utah. The Kiva, 239-255.

Clover, E.U. 1938. The Cactaceae of southern Utah. Bulletin of the Torrey Botanical Club 65(6):397-412.

Cole, S.J. 1984. Analysis of a San Juan (Basketmaker) Style Painted Mask in Grand Gulch, Utah. Southwestern Lore, 50(1):1-6.

Cole, S.J. 1993. Basketmaker rock art at the Green Mask Site, southeastern Utah. Pp. 192-220 in Atkins, V.A., Anasazi Basketmaker: Papers from the 1990 Wetherill-Grand Gulch Symposium. Cultural Resource Series No. 24, Bureau of Land Management, Salt Lake City.

Cole, S.J.. 2014. Petroglyphs and paintings of greater Cedar Mesa. Archaeology Southwest 28(3-4): 36-39.

Coltrain, J.B., J.C. Janetski, and S.W. Carlyle. 2007. The stable- and radio-isotope chemistry of western Basketmaker burials: implications for early Puebloan diets and origins. American Antiquity 72(2):301-321.

Coltrain, J.B., J.C. Janetski, and M.D. Lewis. 2012. A re-assessment of Basketmaker II cave 7: massacre site or cemetery context. Journal of Archaeological Science 39:2220-2230.

Condon, S.M. 1997. Geology of the Pennsylvanian and Permian Cutler group and Permian Kaibab Limestone in the Paradox Basin, Southeastern Utah and Southwestern Colorado. Evolution of Sedimentary Basins – Paradox Basin. U.S. Geological Survey Bulletin 2000-P.

Conyers, L.B. 2009. Ground-penetrating radar for landscape archaeology: method and applications. Pp. 245-255 In Campana and Piro (eds), Seeing the Unseen, Francis and Taylor, London.

Conyers, L.B. and T. Osburn. 2006. Mapping to test anthropological hypotheses: a study from Comb Wash, Utah, American Southwest. 11th International Conference on Ground Penetrating Radar, June 19-22, 2006.

Correll, J.L. 1971. Navajo frontiers in Utah and troublous times in Monument Valley. Utah Historical Quarterly 39(2):145-161.

Coupland, G. 1980. Aggression aggregation and abandonment in southwestern prehistory. Anth520 paper, December 31, 1980. Available at https://research.libraries.wsu.edu:8443/xmlui/handle/2376/5339

Crabtree, S.A. and B.A. Bellorado. 2016. Using cross-media approaches to understand an invisible industry: how cotton production influenced pottery designs and kiva murals in Cedar Mesa. Kiva 82(2):174-200.

Crampton, C.G. 1959. Outline history of the Glen Canyon Region, 1776-1922. University of Utah: Anthropological Papers 46. Glen Canyon Series 9.

Dalley, G.F. 1973. Highway U-95 Archaeology: Comb Wash to Grand Flat. Report to Utah State Department of Highways. May 1973. 244 Pp.

Davis, W.E. and J.D. Till. 2014. The Lime Ridge Clovis Site: old and new data. Archaeology Southwest 28(3-4): 23-24

DeBloois, E I. 1975. The Elk Ridge Archeological Project: a test of random sampling in archeological surveying. USDA Forest Service, Intermountain Region.

DeBloois, E.I., and D.F. Green.1978. SARG research on the Elk Ridge Project, Manti-Lasal National Forest, Utah. Robert C. Euler and George J. Gumerman, 13-23.

DiMichele, W.A., C.B. Cecil. D.S. Chaney, S.D. Elrick, and W.J. Nelson. 2014. Fossil floras from the Pennsylvanian-Permian Cutler Group of southeastern Utah. Pp. 491-504 in MacLean, J.S., R.F. Biek, and J.E. Huntoon, eds., Geology of Utah's Far SouthL Utah Geological Association Publication 43.

DiMichele, W.A., C.B. Cecil, D.S. Chaney, S.D. Elrich, S.G. Lucas, R. Lupia, W.J. Nelson, and N.J. Tabor. 2011. Pennsylvanian-Permian vegetational changes in tropical Euramerica, pp. 60-102 in Harper, J.A., ed., Geology of the Pennsylvanian-Permian in the Dunkard Basin: Guidebook, 76th Annual Field Conference of Pennsylvania Geologists, Washington, PA.

Dohm, K.M. 1981. Similarities in spatial characteristics of several Basketmaker II sites on Cedar Mesa, Utah. (Master of Arts thesis – Washington State University, Department of Anthropology). 127 Pp.

Dohm, K. M. 1988. The Household in Transition: Spatial Organization of Early Anasazi Residential-Domestic Units, Southeastern Utah (Doctoral dissertation, Thesis (PhD)--Washington State University, WSU Anthropology Department).

Dohm, K.M. 1994. The search for Anasazi village origins: Basketmaker II dwelling aggregation on Cedar Mesa. Kiva 60(2):257-276.

Dubiel, R.F. 1982. Measured sections of the Shinarump, Monitor Butte, and Moss Back members of the Chinle Formation (Upper Triassic) in the white canyon and red canyon area, southeastern Utah. Open-File Report 82-729, United States Geological Survey. https://pubs.usgs.gov/of/1982/0729/report.pdf

Dubiel, R.F. 1987. Sedimentology of the upper Triassic Chinle Formation southeastern Utah: paleoclimatic implications. Journal of the Arizona-Nevada Academy of Science 22(1):35-45.

Dubiel, R.F., J.E. Huntoon, S.M. Condon, and J.D. Stanesco. 1996. Permian deposystems, paleogeography, and paleoclimate of the Paradox Basin and vicinity. Pp. 427-443 in Paleozoic Systems of the Rocky Mountain Region, AAPG Rocky Mountain Section.

Dubiel, R.F., J.E. Huntoon, J.D. Stanesco, and S.M. Condon. 2009. Cutler group alluvial, eolian, and marine deposystems: Permian facies relations and climatic variability in the Paradox Basin. Pp. 265-308 in Houston et al., Eds., The Paradox Basin Revisited – New Developments in Petroleum Systems and Basin Analysis: Rocky Mountain Association of Geologists Special Publication.

Dubiel, R.F., J.T. Parrish, J.M. Parrish, and S.C. Good. 1991. The Pangean megamonsoon – evidence from the upper Triassic Chinle Formation, Colorado Plateau. PALAIOS 6(4):347-370.

Duffy, S., 1998. Permian root traces from Natural Bridges National Monument. National Park Service paleontological research, 3, pp.107-108.
http://doc.rero.ch/record/31780/files/PAL_E1336.pdf#page=107

Durrant, S.D., and M.R. Lee. 1955. Rare shrews from Utah and Wyoming. Journal of Mammalogy 36(4): 560-561.

Dzenowski, N., S.T. Hasiotis, and D.L. Rasmussen. 2013. Vertebrate burrows within pedogenically modified deposits from the lower Permian (Wolfcampian) Cedar Mesa Sandstone of southeastern Utah. Geological Society of America National Meeting 45(7):326.

Farmer, J.D. 1997. Iconographic evidence of basketmaker warfare and human sacrifice: a contextual approach to early Anasazi art. Kiva 62(4):391-420.

Fast, N. 2011. How great were Cedar Mesa great house communities? Presentation at Society for American Archaeology Cedar Mesa Symposium, March 9, 2011.

Fernandez, D.P., J.C. Neff, and R.L. Reynolds. 2008. Biochemical and ecological impacts of livestock grazing in semi-arid southeastern Utah, USA. Journal of Arid Environments 72(2008):777-791.

Floyd, M.E. 1983. Dioecy in five Pinus edulis populations in the southwestern United States. The American Midland Naturalist 110(2):405-411.

Floyd, M.E. 1986. Inter- and intraspecific variation in pinon pine populations. Botanical Gazette 147(2):180-188.

Gay, R.K. and I. St. Aude. 2015. The first occurrence of the enigmatic aurhosauriform Crosbysaurus Heckert 2004 from the Chinle Formation of southern Utah. PeerJ. 3:e905 https://doi.org/10.7717/peerj.905

Geib, P.R. 1996. AMS dating of plain-weave sandals from the central Colorado Plateau. Utah Archaeology 9(1):35-53.

Geib, P.R., and D. Davidson. 1994. Anasazi origins: A perspective from preliminary work at Old Man Cave. The Kiva, 191-202.

Geib, P.R. and W.B. Hurst. 2013. Should dates trump context? Evaluation of the Cave 7 skeletal assemblage radiocarbon dates. Journal of Archaeological Science. 40(6):2754-2770.

Giles, E. and H.K. Bleibtreu. 2009. Cranial evidence in archaeological reconstruction: a trial of multivariate techniques in the Southwest. American Anthropologist 63(1):48-61.

Glowacki, D.M. 2006. The social landscape of depopulation: the northern San Juan, A.D. 1150-1300. (Doctoral dissertation, Arizona State University, Department of Anthropology). 245 Pp.

Glowacki, D.M., J.R. Ferguson, W. Hurst, and C.M. Cameron. 2015. Crossing Comb Ridge: Pottery Production and Procurement Among Southeast Utah Great House Communities. American Antiquity, 80(3):472-491.

Goldhammer, R.K., E.J. Oswald, and P.A. Dunn. 1991. Hierarchy of stratigraphic forcing: example from middle Pennsylvanian shelf carbonates of the Paradox basin. Kansas Geological Survey Bulletin 233: 361-413.

Goodson, N.J., D.R. Stevens, J. Cole, P. Kyselka, and G.M. Tom. 2007. Restoration of desert bighorn sheep on the Navajo Nation. 2007 Desert Bighorn Council Transactions 49:41-51.

Gose, W.A. and C.E. Helsley. 1972. Paleomagnetic and rock-magnetic studies of the Permian Cutler and Elephant Canyon Formations in Utah. Journal of Geophysical Research 77(8):1534-1548.

Gregory, H.E. 1938. The San Juan Country: A Geographic and Geologic Reconnaissance of Southeastern Utah. United States Government Printing Office, Washington DC. 123 Pp.

Guilfoyle, D.R. 2004. A model for the Pueblo I settlement of the Elk Ridge region, southeast Utah. Kiva 70(2):121-141.

Hardy, D. 1975. A description and analysis of the architecture and artifacts of the Picket Fork Sites, Cedar Mesa, San Juan County, Utah. (Masters of Arts Thesis, Brigham Young University, Department of Archaeology). 196 Pp.

Haase, W.R. IV. 1983. Pueblo II and Pueblo III settlement patterns on Cedar Mesa, Southeastern Utah. (Master of Arts thesis, Washington State University, Department of Anthropology). 137 Pp.

Haenel, G.J. 2007. Phylogeography of the tree lizard, *Urosaurus ornatus*: responses of populations to past climate change. Molecular ecology 16:4321-4334.

Hard, R.J., R.P. Mauldin, and G.R. Raymond. 1996. Mano size, stable carbon isotope ratios, and macrobotanical remains as multiple lines of evidence of maize dependence in the American southwest. Journal of Archaeological Method and Theory 3(4):253-318.

Hasiotis, S.T. and D.L. Rasmussen. 2010. Enigmatic, large-and mega-diameter burrows in the Lower Permian Cedar Mesa Sandstone, Comb Ridge and Moqui Dugway, southeastern, Utah. Geological Society of America Rocky Mountain Section. In Abstracts with Programs 42:2.

Hazel, J.E. Jr. 1994. Sedimentary response to intrabasinal salt tectonism in the Upper Triassic Chinle Formation, Paradox Basin, Utah. U.S. Geological Survey Bulletin 2000-F. U.S. Government Printing Office. 43 Pp.

Hegmon, M., J.R. Allison, H. Neff, and M.D. Glascock. Production of San Juan red ware in the northern southwest: insights into regional interaction in early Puebloan prehistory. American Antiquity 62(3):449-463.

Helms, C.D. Jr. and E.L. Stoudt. 2011. Depositional environments and west-east stratigraphic correlations of the upper Pennsylvanian Honaker Trail Formation, the Paradox Basin, Southeast Utah. Presentation of 2011 West Texas Geological Society Fall Symposium. Midland.

Hockenbary, C. and D. Willey. 2011. Effects of recreational disturbance on Mexican spotted owls on the Colorado Plateau in southern Utah. Intermountain Journal of Sciences 17(1-4):51.

Hodgson, R.A. 1961. Regional study of jointing in Comb Ridge-Navajo mountain area, Arizona and Utah. AAPG Bulletin, 45(1), 1-38.

Holstad, E.C. 2010. Basketmaker II stone-boiling technology at Cedar Mesa, Utah: an experimental study. (Master of Arts Thesis, Washington State University, Department of Anthropology). 118 Pp.

Hornsby, S. and R.S. McPherson. 2009. "Enemies like a road covered with ice": the Utah Navajos' experience during the Long Walk period, 1858-1868. American Indian Culture and Research Journal 33(2):1-22.

Huntoon, J.E., R.F. Dubiel, J.D. Stanesco, D.L. Mickelson, and S.M. Condon. 2002. Permian-Triassic depositional systems, paleogeography, paleoclimate, and hydrocarbon resources in Canyonlands and Monument Valley, Utah. GSA Field Guides 3:33-58

Huntoon, J. E., Stanesco, J. D., Dubiel, R. F., and Dougan, J. 2000. Geology of Natural Bridges National Monument, Utah. In D.A. Sprinkel, T.C. Chidsey, Jr., and P.B. Anderson, eds.. Geology of Utah's Parks and Monuments: Utah Geological Association Publication 28, p. 233-250.

Hurst, W.B. and C.G. Turker II. 1993. Rediscovering the "great discovery:" Wetherill's first Cave 7 and its record of Basketmaker violence. Pp. 143-191 in Atkins, V.A., Anasazi Basketmaker: Papers from the 1990 Wetherill-Grand Gulch Symposium. Cultural Resource Series No. 24, Bureau of Land Management, Salt Lake City.

Hurst, W.B. and J.G. Willian. 2014. Younger traces: other Cedar Mesa archaeologies. Archaeology Southwest 28(3-4):40-42.

Janetski, J.C. 1979. Implications of snare bundles in the Great Basin and Southwest. Journal of California and Great Basin Anthropology 1(2):306-321.

Johnson, H.S. and W. Thordarson. 1959. The Elk Ridge-White Canyon channel system, San Juan County, Utah; its effect on uranium distribution. Economic Geology 54(1):119-129.

Johnson, H.S. and W. Thornardson. 1966. Uranium deposits of the Moab, Monticello, White Canyon, and Monument Valley Districts, Utah and Arizona. Contributions to Economic Geology, Geological Survey Bulletin 1222-H. 53 Pp.

Keller, D.R. 1979. Prehistoric lithic materials on Cedar Mesa, southeastern Utah: source identification and aspects of regional distribution. Annual Meeting, Arizona-Nevada Academy of Science, Tempe, AZ.

Keller,D.R. 1982. Lithic source identification through macroscopic analysis: an example from Cedar Mesa, southeastern Utah. Kiva 47(3):163-169.

Keller, D.R., R.V. Ahlstrom, and D. Hartman. 1974. Surface cleanup of cultural sites in Grand Gulch. Final report submitted to Bureau of Land Management, Monticello, Utah. Museum of Northern Arizona, Flagstaff.

Kidder, A.V. 1910. Explorations in southeastern Utah in 1908. American Journal of Archaeology 14(3):337-359.

Kinnear-Ferris, S. 2011. Hopi pottery in the southern Utah canyon country. In The Cedar Mesa Project Turns Forty! New Results from a long-lived study in SE Utah symposium. Sacramento, CA, March 31, 2011.

Kirkland, P.L. 1963. Permian stratigraphy and stratigraphic paleontology of a part of the Colorado Plateau. Pp. 80-100 in Four Corners Geological Society: Shelf Carbonates of the Paradox Basin, Fourth Field Conference.

Kleinhampl, F.J. 1962. Botanical prospecting for uranium on South Elk Ridge, San Juan County, Utah. Pp. 105-188 in Botanical Prospecting for Uranium on the Colorado Plateau, Geological Survey Bulletin 1085, GPO, Washington DC.

Kosanke, R.M. 1955. Palynology of part of the Paradox and Honaker Trail formations, Paradox Basin, Utah. USGS Bulletin, 2000-L.

Kramer, K., Osborn, A. J., and Hurst, W. 1991. Archeological Investigations in Natural Bridges National Monument, Utah" *Canyonlands Research Bibliography.* Paper 197. http://digitalcommons.usu.edu/crc_research/197

Kuckelman, K.A., R.R. Lightfoot, and D.L. Martin. 2000. Kiva 66(1):147-165.

Langford, R. and M.A. Chan. 1988. Flood surfaces and deflation surfaces within the Cutler Formation and Cedar Mesa Sandstone (Permian), southeastern Utah. Bulletin of the Geological Society of America 100(10):1541-1549.

Langford, R. and M.A. Chan. 1989. Fluvial-aeolian interactions: part ii, ancient systems. Sedimentology 36(6):1037-1051.

Langford, R.P. and M.A. Chan. 2009. Downwind changes within an ancient dune sea, Permian Cedar Mesa sandstone, southeast Utah. In K. Pye and N. Lancaster, eds., Aeolian Sediments: Ancient and Modern.

Langford, R.P., K.M. Pearson, K.A. Duncan, D.M. Tatum, L. Adams, and P.A. Depret. 2008. Eolian topography as a control on deposition incorporating lessons from modern dune seas: Permian Cedar Mesa Sandstone, SE Utah, U.S.A. Journal of Sedimentary Research 78(6):410-422.

Leavitt, S.W. and A. Long. 1986. Stable-carbon isotope variability in tree foliage and wood. Ecology 67(4):1002-1010.

Lee, M.R., D.J. Schmidly, and C.C. Huheey. 1972. Chromosomal variation in certain populations of Peromyscus boylii and its systematic implications. Journal of Mammalogy 53(4):697-707.

Leinert, B.R. and C.E. Helsley. 1980. Magnetostratigraphy of the Moenkopi Formation at Bears Ears, Utah. Journal of Geophysical Research 85(B3):1475-1480.

Lewis, R.Q. and R.H. Campbell. 1965. Geology and uranium deposits of Elk Ridge and vicinity, San Juan County, Utah. Shorter Contributions to General Geology, Geological Survey Professional Paper 474-B. 73 Pp.

Lipe, W.D. 1967. Anasazi culture and its relationship to the environment in the red rock plateau region, southeastern Utah. (Ph.D. Dissertation, Yale University, Anthropology). 406 Pp.

Lipe, W.D. 1970. Anasazi communities in the Red Rock Plateau. Pp. 84-139 in Longacre, W.A., ed., Reconstructing Prehistoric Pueblo Societies. University of New Mexico Press, Albuquerque.

Lipe, W.D. 1979. Archaeological research at the Turkey Pen Site, Grand Gulch Primitive Area, San Juan County, Utah. ARPA Case Notes. Available at https://research.libraries.wsu.edu

Lipe, W.D. 2002. Social power in the central Mesa Verde region, A.D. 1150-1290. Pp. 203-232 in Varien, M.D. and Wilshusen, R.H., eds., Seeking the Center Place: Archaeology and Ancient Communities in the Mesa Verde Region. Universit of Utah Press.

Lipe, W.D. 2013. Final report for the 2012 National Trust Preservation Fund grant "Historic Pueblo Cultural Landscape, Cedar Mesa, Utah." Available at https://research.libraries.wsu.edu:8443/xmlui/handle/2376/4251

Lipe, W.D. 2014. Tortuous and fantastic: cultural and natural wonders of greater Cedar Mesa. Archaeology Southwest 28(3-4): 3-7

Lipe, W.D. 2014. Culture history of Cedar Mesa before 1300: findings of the Cedar Mesa project and its successors. Archaeology Southwest 28(3-4): 17-19

Lipe, W.D., R.K. Bocinsky, B.S. Chisholm, R. Lyle, D.M. Dove, R.G. Matson, E. Jarvis, K. Judd, and B.M. Kemp. 2016. Cultural and genetic contexts for early turkey domestication in the northern southwest. American Antiquity 81(1):97-113.

Lipe, W. D., and R.G. Matson. 1971. Human Settlement and Resources in the Cedar Mesa Area, SE Utah. The Distribution of Prehistoric Population Aggregates, 126-151.

Lipe, W.D. and R.G. Matson. 1975. Archaeology and alluvium in the Grand Gulch-Cedar Mesa area, southeastern Utah. Utah Archaeology: A Newsletter 21(2):1-11.

Lipe, W.D. and S.G. Ortman. 2000. Spatial patterning in northern San Juan villages, a.d. 1050-1300. Kiva 66(1):91-122.

Lipe, W.D., R.G. Matson, and Brian M. Kemp. 2011. New insights from old collections: Cedar Mesa, Utah, revisited. Southwestern Lore 77(2): 103-113.

Lipe, W.D., R.G. Matson, and M. Powers. 1977. Final report for archaeological sampling survey of proposed additions to the existing Grand Gulch Primitive Area. A-76-18. Archaeological Investigations, Bureau of Land Management, Moab District, San Juan County, Utah. 75 Pp.

Lock, B.E. 2002. Sabkhas ancient and modern. Gulf Coast Association of Geological Societies Transactions 52:645-657.

Longpre, C.I. 2001. Late quaternary alluvial geochronology and geomorphology of Lower Comb Wash, San Juan County, Utah. Geological Society of America Abstracts with Programs 33(5):59.

Loope, D.B. 1984. Eolian origin of upper Paleozoic sandstones, southeastern Utah. Journal of Sedimentary Research 54(2):563-580.

Loope, D.B. 1985. Episodic deposition and preservation of eolian sands: a late Paleozoic example from southeastern Utah. Geology 13:73-76.

Lopez, A., I. St. Aude, D. Alderete, D. Alvarez, H. Aultman, D. Busch, R. Bustamante, L. Cirks, M. Lopez, A. Moncada, E. Ortega, C. Verdugo, R.J. Gay. 2015. PeerJ. https://dx.doi.org/10.7287/peerj.preprints.1110v3

Louthan, B.D. 1977. Anasazi occupation near Chippean Ridge: site types, settlement patterns, and subsistence southwest of the Abajo Mountains, San Juan County, Utah. Canyonlands Research Bibliography, Paper 19.

Lucas S.G., A.B. Heckert, J.W. Estep, and O.J. Anderson. 1997. Stratigraphy of the upper Triassic Chinle group, four corners region. New Mexico Geological Society Guidebook, 48th Field Conference, Mesozoic Geology and Paleontology of the Four Corners Region:81-108.

Mack, G.H. 1977. Depositional environments of the Cutler-Cedar Mesa facies transition (Permian) near Moab. Utah: The Mountain Geologist, 14(2), 53-68.

Mack, G.H. 1978. The survivability of labile light-mineral grains in fluvial, Aeolian and littoral marine environments: the Permian Cutler and Cedar Mesa formations, Moab, Utah. Sedimentology 25(5):587-604.

Maguire, B. 1942. Great Basin Plants VII. Cruciferae. The American Midland Naturalist 27(2):463-469.

Mahoney, N.M., M.A. Adler, and J.W. Kendrick. 2000. The changing scale and configuration of Mesa Verde communities. Kiva 66(1):67-90.

Martin, P.S. 1934. The bow-drill in North America. American Anthropologist 36(1):94-97.

Martin, S.L. 1999. Virgin Anasazi diet as demonstrated through the analysis of stable carbon and nitrogen isotopes. Kiva 64(4):495-514.

Matson, R.G. 1994. Anomalous Basketmaker II sites on Cedar Mesa: Not so anomalous after all. The Kiva, 219-237.

Matson, R.G.. 2014. Cedar Mesa Basketmaker II: the story continues. Archaeology Southwest 28(3-4): 24-27

Matson, R.G. 2015. Turkey Pen Excavation. Available at https://research.libraries.wsu.edu:8443/xmlui/handle/2376/5302

Matson, R. G. and M. Brand, eds. 1995. Exploring Anasazi Origins; The Cedar Mesa Basketmaker II. Report to the Bureau of Land Management, Monticello Field Office. Vancouver, BC. 172 Pp.

Matson, R.G. and Chisholm, B. 1991. Basketmaker II subsistence: Carbon isotopes and other dietary indicators from Cedar Mesa, Utah. American Antiquity 56(3)444-459.

Matson, R.G. and K. Dohm. 1994. Introduction. Pp. 159-162 in Matson, R.G. and K. Dohm, Eds., Anasazi Origins: Recent Research on the Basketmaker II. Special issue of Kiva 60(2).

Matson, R. G., and Lipe, W. D. 1975. Regional sampling: a case study of Cedar Mesa, Utah. Sampling in Archaeology, 124-143.

Matson, R.G. and W.D. Lipe. 2013. Remote sensing of Great Kiva depressions at Cedar Mesa, Utah. Hampton Report. Available at https://research.libraries.wsu.edu:8443/xmlui/handle/2376/4918

Matson, R.G., W.D. Lipe, and D. Curewitz. 2015. Dynamics of the thirteenth-century depopulation of the northern San Juan: the View from Cedar Mesa. Kiva 80(3-4):324-349.

Matson, R.G., W.D. Lipe, and W.R. Haase IV. 1988. Adaptational continuities and occupational discontinuities: the Cedar Mesa Anasazi. Journal of Field Archaeology 15(3):245-264.

Matson, R.G., W.D. Lipe, and W.R. Haase IV. 2014. Human adaptations on Cedar Mesa, southeastern Utah. Revised. Available at https://open.library.ubc.ca/cIRcle/collections/facultyresearchandpublications/18836/items/1.0045305

McPherson, R.S. 1992. Sacred land, sacred view: Navajo perceptions of the Four Corners Region (No. 19). Charles Redd Center for Western Studies

McPherson, R.S. 2009. Comb Ridge and its people: the ethnohistory of a rock. Utah State University Press.

McPherson, R.S. 2010. Power, prayers, and protection: Comb Ridge as a case study in Navajo thought. American Indian Culture and Research Journal 34(1):1-23.

McVickar, J (ed). 2001. Archeological Survey of Natural Bridges National Monument, Southeastern Utah. Intermountain Cultural Resources Management Professional Paper No. 64. Department of Interior, National Park Service, Intermountain Region.

Mead, J.I., L.D. Agenbroad, A.M. Phillips III, and L.T. Middleton. 1987. Extinct mountain goat (Oreamnos harringtoni) in southeastern Utah. Quaternary Research 27(3):323-331.

Mehls, S. F. and Mehls, C.D. 1986. Canyonlands National Park, Arches National Park, and Natura Bridges National Monument Historic Resource Study. Final report submitted to the National Park Service, Rocky Mountain Regional Office, Contract #PX-1200-5-A070. m. s. on file, Canyonlands National Park.

Meyer, S.E., S.G. Kitchen, and S.L. Carlson. 1995. Seed germination timing patterns in intermountain penstemon (Scrophulariaceae). American Journal of Botany 82(3):377-389.

Miller, L.J. 1955. Uranium ore controls of the Happy Jack deposit, White Canyon, San Juan County Utah. Economic Geology 50(2):156-169.

Mills, B.J. 1989. Ceramics and settlement in the Cedar Mesa area, southeastern Utah: a methodological approach (Doctoral dissertation, Thesis (PhD)--University of New Mexico, Department of Anthropology).

Molenaar, C.M. 1981. Mesozoic stratigraphy of the Paradox basin—an overview. Geology of the Paradox basin: Rocky Mountain Association of Geologists, 119-127.

Molina-Garza, R.S., J.W. Geissman, and S.G. Lucas. 2003. Paleomagnetism and magneostragigraphy of the lower Glen Canyon and upper Chinle Groups, Jurassic-Triassic of northern Arizona and northeast Utah. Journal of Geophysical Research 108.

Morton, E.E. 2002. Late Pueblo II and Pueblo III canyon settlement patterns at Cedar Mesa, southeastern Utah. (Masters thesis-Washington State University, Department of Anthropology).

Mountney, N. P. 2006. Periodic accumulation and destruction of aeolian erg sequences in the Permian Cedar Mesa Sandstone, White Canyon, southern Utah, USA. Sedimentology, 53(4), 789-823.

Mountney, N. P. and A. Jagger. 2004. Stratigraphic evolution of an aeolian erg margin system: the Permian Cedar Mesa Sandstone, SE Utah, USA.Sedimentology, 51(4), 713-743.

Mullens, T.E. 1955. Geology of the Red House Cliffs area, San Juan County, Utah. United States Department of the Interior Geological Survey, Trace Elements Investigations Report 445. 167 Pp.

Nelson, R.J. 1994. Basketmaker II lithic reduction technology and mobility patterns on Cedar Mesa, southeast Utah. Pp. 277-288 in Matson, R.G. and Dohm, K., Anasazi Origins: Recent Research on the Basketmaker II. Special issue, Kiva 60(2).

Nott, B.M. 2010. Documenting domestication: molecular and palynological analysis of ancient turkey coprolites from the American Southwest. (Master of Science Thesis, Washington State University, Department of Botany). 63 Pp.

Olson, J.E. 2007. Fracture aperture, length and pattern geometry development under biaxial loading: a numerical study with applications to natural, cross-jointed systems. Geological Society, London, Special Publications 289:123-142.

Oppelt, N.T. 2001. Seeking the red ware potters of the northern San Juan: Petrographic analysis of Bluff black-on-red. Kiva 66(4):447-465.

Osborn, A.J. 1993. Snowblind in the desert southwest: moisture islands, ungulate ecology, and alternative prehistoric overwintering strategies. Journal of Anthropological Research 49(2):135-164.

O'Sullivan, R.B. 1965 Geology of the Cedar Mesa-Boundary Butte Area, San Juan County, Utah. Geological Survey Bulletin 1186.

Parry, W.T., M.A. Chan, and B. Beitler. 2004. Chemical bleaching indicates episodes of fluid flow in deformation bands in sandstone. AAPG Bulletin 88(2):175-191.

Pederson, J.C. and K.T. Harper. 1984. Does summer range quality influence sex ratios among mule deer fawns in Utah? Journal of Range Management 37(1):64-66.

Pederson, J.C. and R.C. Tuckfield. 1983. A comparative study of coyote food habits on two Utah deer herds. Great Basin Naturalist 43(3):432-437.

Pendleton, R.L., B.K. Pendleton, and S.D. Warren. 1999. Response of blackbrush (*Coleogyne ramosissima*) seedlings to inoculation with arbuscular mycorrhizal fungi. USDA Forest Service Proceedings RMRS-P-11. Pp. 245-251.

Pepper, G.H. 1902. The ancient basket makers of southeastern Utah. Supplement to the American Museum Journal 2(4). 26 Pp.

Petersen, D. 2002. Cedar Mesa: A Place Where Spirits Dwell. University of Arizona Press, Tucson, AZ.

Phillips, A. 1993. Archaeological expeditions into southeastern Utah and southwestern Colorado between 1888-1898 and the dispersal of the collections. Pp. 103-118 in Atkins, V.A., Anasazi Basketmaker: Papers from the 1990 Wetherill-Grand Gulch Symposium. Cultural Resource Series No. 24, Bureau of Land Management, Salt Lake City.

Pitman, R. K. (1958). Uranium-vanadium deposits of the Cottonwood Wash mining area. *San Juan County, Utah: US Atomic Energy Commission RME-109 (Rev.).*

Platenberg R., Graham, T. 2003. Northern Colorado Plateau Network Herpetofauna Inventory 2002 Annual Report. USGS Southwest Biological Science Center, Canyonlands Field Station. Moab, UT.

Pollock, K.H. 2001. Pits without pots: Basketmaker II houses and lithics of southeastern Utah. (Masters of Arts thesis, Washington State University, Department of Anthropology). 218 Pp.

Poole, F.G. 1962. Wind directions in late Paleozoic to middle Mesozoic time on the Colorado Plateau. Geological Survey Research 1962. Geological Survey Professional Paper 450-D, 147-151.

Powers, M.A. 1984. The salvage of archaeological data from Turkey Pen Ruin, Cedar Mesa, Utah. Contributions to Anthropology Series No. 808. Division of Conservation Archaeology, San Juan County Museum Association, Farmington. 274 Pp.

Prommel, H.W. and H.E. Crum. 1927. Salt domes of Permian and Pennsylvanian age in southeastern Utah and their influence on oil accumulation. AAPG Bulletin, 11(4):373-393.

Prudden, T.M. 1903. The prehistoric ruins of the San Juan watershed in Utah, Arizona, Colorado, and New Mexico. American Anthropologist 5(2):224-288

Puseman, K. and J. Dexter. 2005. Macrofloral analysis at the Comb Wash Great House, Site 42SA24756, southeast Utah. PaleoResearch Institute, 36 Pp.

Raymond, A. 1986. Experiments in the function and performance of the weighted atlatl. World Archaeology 18(2):153-177.

Reed, L. and P.F. Reed. 1992. Cultural diversity and adaptation: the Archaic, Anasazi, and Navajo occupation of the upper San Juan Basin. Bureau of Land Management Cultural Resources Series No. 9. 163 Pp.

Roller, J.C. 1964. Crustal structure in the eastern Colorado Plateaus province from seismic-refraction measurements. Technical Letter Number 19. United States Department of the Interior Geological Survey.

Rosenzweig, A., J.W. Gruner, and L. Gardiner. 1954. Widespread occurrence and character of uraninite in the Triassic and Jurassic sediments of the Colorado Plateau. Economic Geology 49:351-361.

Rylander, K.A. 1994. Corn preparation among the basketmaker Anasazi: a scanning electron microscope study of Zea mays remains from coprolites. Paleonutrition: The diet and health of Prehistoric Americans: Southern Illinois University at Carbondale, Center for Archaeological Investigations, Occasional Paper 22, 115-133.

Salkin, P.H. 1975. The malacology of the Kane Springs column and the paleoecology of Cedar Mesa, southeastern Utah. Four Corners Geological Society Guidebook, 8th Field Conference, Canyonlands.

Santucci, V.L., Kenworthy, J. and Kerbo, R.C., 2001. *An inventory of paleontological resources associated with National Park Service caves* (pp. 1-50). US Department of the Interior, National Park Service, Geological Resource [s] Division.
http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.161.3797&rep=rep1&type=pdf

Santucci, V.L., and Kirkland, J.I. 2010. "An Overview of National Park Service Paleontological

Resources from the Parks and Monuments in Utah" in D.A. Sprinkel, T.C. Chidsey, Jr., and P.B. Anderson, (eds). *Geology of Utah's Parks and Monuments* Utah Geological Association Publication 28 (third edition)
https://www.nps.gov/subjects/fossils/upload/SANTUCCI_KIRKLAND_2010_FOSSILS_OF_UTAH-PARKS_MONUMENTS.pdf

Schelz, C. and Moran, M. 2004. Southeast Utah Group: Amphibians (summary sheet).U.S. Department of the Interior, National Park Service.
https://www.nps.gov/arch/planyourvisit/upload/amphibians.pdf

Schmieding, Samuel J. 2008. From Controversy to Compromise to Cooperation: The Administrative History of Canyonlands National Park. National Park Service.
https://www.nps.gov/cany/planyourvisit/upload/CanyAdminHistory_forweb.pdf

Schultze, H.P. and J. Chorn. 1986. Palaeoniscoid (Actinopterygii, Pisces) vertebrae from the late Paleozoic of central North America. Journal of Paleontology 60(3):744-757.

Scott, G.L. 1965. Heavy mineral evidence for source of some Permian quartzose sandstones, Colorado Plateau. Journal of Sedimentary Research,35(2).

Scott, K.M. 2005. Cohesion, water vapor, and floral topography: significance for the interpretation of the depositional mechanisms of the late Paleozoic Halgaito formation, Cutler Group, southeastern Utah. Pp. 296-301 in Lucas, S.G. and K.E. Ziegler, The Nonmarine Permian, New Mexico Museum of Natural History Bulletin No. 30.

Scott, K.M. 2013. Carboniferous-Permian boundary in the Halgaito Formation, Cutler Group, Valley of the Gods and Surrounding Area, southeastern Utah. Pp. 398-409 in Lucas, S.G. et al., eds., New Mexico Museum of Natural History and Science Bulletin 60.

Sears, J.D. 1956. Geology of Comb Ridge and vicinity north of San Juan River, San Juan County, Utah (No. 1021-E). US Geological Survey.

Semken, S. 2003. Black rocks protruding up: the Navajo volcanic field. New Mexico Geological Society Guidebook, 54th Field Conference, Geology of the Zuni Plateau. Pp. 133-138.

Sertich, J.J.W. and M.A. Loewen. 2010. A new basal sauropodomorph dinosaur from the lower Jurassic Navajo Sandstone of southern Utah. PLoS ONE 5(3)

Severance, O. 2016. Pottery kilns and their relationship to unit pueblos in southeastern Utah. Pottery Southwest 32(2-3):2-11.

Spangler, J.D., A.T. Yentsch, and R. Green. 2010. Farming and foraging on the southwestern frontier: an overview of previous research of the archaeological and historical resources of the Greater Cedar Mesa area. Antiquities Section selected papers 9(18). 277 Pp.

Speller, C.F., B.M. Kemp, S.D. Wyatt, C. Monroe, W.D. Lipe, U.M. Arndt, and D.Y. Yang. 2010. Ancient mitochondrial DNA analysis reveals complexity of indigenous North American turkey domestication. Proceedings of the National Academy of Sciences 107(7):2807-2812.

Stewart, J.H. 1957. Proposed nomenclature of part of Upper Triassic strata in southeastern Utah. AAPG Bulletin, 41(3):441-465.

Stewart, J.H., F.G. Poole, and R.F. Wilson. 1972. Stratigraphy and origin of the Chinle Formation and related Upper Triassic strata in the Colorado Plateau region. Geological Survey Professional Paper 690. U.S. Government Printing Office, Washington. 336 Pp.

Stoner, D.C., M.L. Wolfe, W.R. Rieth, K.D. Bunnell, S.L. Durham, and L.L. Stoner. 2013. De facto refugia, ecological traps and the biogeography of anthropogenic cougar mortality in Utah. Diversity and Distributions 19:1114-1124.

Sullivan. A.P. III. 1988. Prehistoric southwestern ceramic manufacture: the limitations of current evidence. American Antiquity 53(1):23-35.

Sullivan, L.R. 2009. The fossa pharyngea in American Indian crania. American Anthropologist 22(3):237-243.

Sumida, S.S., G.M. Albright, and E.A. Rega. 1999. Late Paleozoic fishes of Utah. Pp. 13-20 in Gillette, D.D., ed., Vertebrate Paleontology in Utah. Miscellaneous Publication 99-1, Utah Geological Survey.

Sumida, S.S., R.E. Lombard, D.S. Berman, and A.C. Henrici. 1999. Late Paleozoic Amniotes and Their Near Relatives from Utah and Northeastern Arizona, With Comments on the Permian-Pennsylvanian Boundary in Utah and Northern Arizona in Gilette. Vertebrate Paleontology in Utah. Utah Geological Survey, Miscellaneous Publication, 99(1):31-43.

Sumida, S.S., J.B. Walliser, and R.E. Lombard. 1999. Late Palaeozoic amphibian-grade tetrapods of Utah. Vertebrate Paleontology in Utah. Utah Geological Survey, Miscellaneous Publication, 99(1):21-30.

Taira, A. and P.A. Scholle. 1979. Discrimination of depositional environments using settling tube data. Journal of Sedimentary Research,49(3):787-799.

Till, J.D. and W.B. Hurst. 2011. Geography, society, and cosmology in the Puebloan northwest: monumental features on Cedar Mesa, Utah. Society for American Archaeology meeting, Sacramento, CA, April 1, 2011. Draft Paper available at https://research.libraries.wsu.edu:8443/xmlui/handle/2376/3058 (not for citation purposes)

Till, J.D. and W.B. Hurst. 2014. Monumental landscapes on Cedar Mesa. Archaeology Southwest 28(3-4): 31-34

Turnbow, D.R. 1955. Permian and Pennsylvanian rocks of the four corners area. Four Corners Geological Society Guidebook. Pp 66-68.

Turner, C.G. II. 1963. Petrographs of the Glen Canyon region. Museum of Northern Arizona Bulletin 38 (Glen Canyon Series 4). Flagstaff.

U.S. Department of Agriculture, Forest Service. 1986. Manti-La Sal Land and Resource Management Plan. http://www.fs.usda.gov/detail/mantilasal/landmanagement/planning/?cid=stelprdb5383364

U.S. Department of the Interior, National Park Service. 1996. Natural Bridges National Monument Resource Management Plan. https://www.nps.gov/nabr/getinvolved/planning.htm

U.S. Department of the Interior, National Park Service. 2004. Natural Bridges National Monument Geologic Resource Evaluation Report Natural Resource Report

NPS/NRPC/GRD/NRR—2004/003. Geologic Resources Division, Natural Resource Program Center. Denver, Colorado.

U.S. Department of the Interior, National Park Service. 2004. Northern Colorado Plateau Network Phase III Report. Appendix E (Natural Bridges National Monument Biophysical Description).
http://science.nature.nps.gov/im/units/ncpn/assets/docs/park_descriptions/nabr_description.pdf

U.S. Department of the Interior, National Park Service. 2005. Geologic Map of Canyonlands National Park.
https://www.nature.nps.gov/geology/inventory/publications/map_graphics/cany_map_graphic.pdf

U.S. Department of the Interior, National Park Service. 2013. Foundation Document, Natural Bridges National Monument.
https://parkplanning.nps.gov/documentsList.cfm?parkID=81&projectID=43999

U.S. Department of the Interior, National Park Service. 2016. Park Species Lists: Natural Bridges National Monument (website). Northern Colorado Plateau Network
http://science.nature.nps.gov/im/units/ncpn/speciesSelect.cfm?Park=NABR&Category=All

Vance, M.M. 2011. Stones without Bones: Reconstructing the Lime Ridge Clovis Site. (Master of Arts Thesis, Northern Arizona University, Department of Anthropology). 221 Pp.

Vaughn, P.P. 1967. Evidence of ossified vertebrae in Actinoperygian fish of early Permian age, from southeastern Utah. Journal of Paleontology 41(1):151-160.

Weber, L.J., J.F. Sarg, and F.M. Wright. Sequence stratigraphy and reservoir delineation of the middle Pennsylvanian (Desmoinesian), Paradox Basin and Aneth Field, southwestern USA. 81 Pp.

Wengerd, S. A. 1951. Reef Limestones of Hermosa Formation, San Juan Canyon, Utah. AAPG Bulletin, 35(5), 1038-1051.

Wengerd, S.A. 1955. Biohermal trends in Pennsylvanian strata of San Juan Canyon, Utah. Geology of Parts of Paradox, Black Mesa and San Juan Basins, Four Corners Field Conference: 70-77.

West, G.J. 1979. Recent palynology of the Cedar Mesa Area, Utah. (Doctoral dissertation, University of California-Davis, Department of Anthropology.) 175 Pp.

White, T.D. 1988. Appendix C. Cottonwood Wash, Southeastern Utah: The Human Osteology of Feature 3, FS# 27, Site 42SA12209. Salvage Excavations of 42SA12209. A Pueblo I Habitation Site in Cottonwood Canyon, Manti-Lasal National Forest, Southeastern Utah, by J. Fetterman, L. Honeycutt, and K. Kuckelman, 1-7.

Willey, D.W. and C. Van Riper III. 1998. Ecology of Mexican spotted owls (Strix occidentalis lucida) in the canyonlands of southern Utah and potential relationships to the GSENM. In Learning from the Land: Grand Staircase-Escalante National Monument Science Symposium Proceedings: November 4-5, 1997, Southern Utah University. US Department of the Interior, Bureau of Land Management.

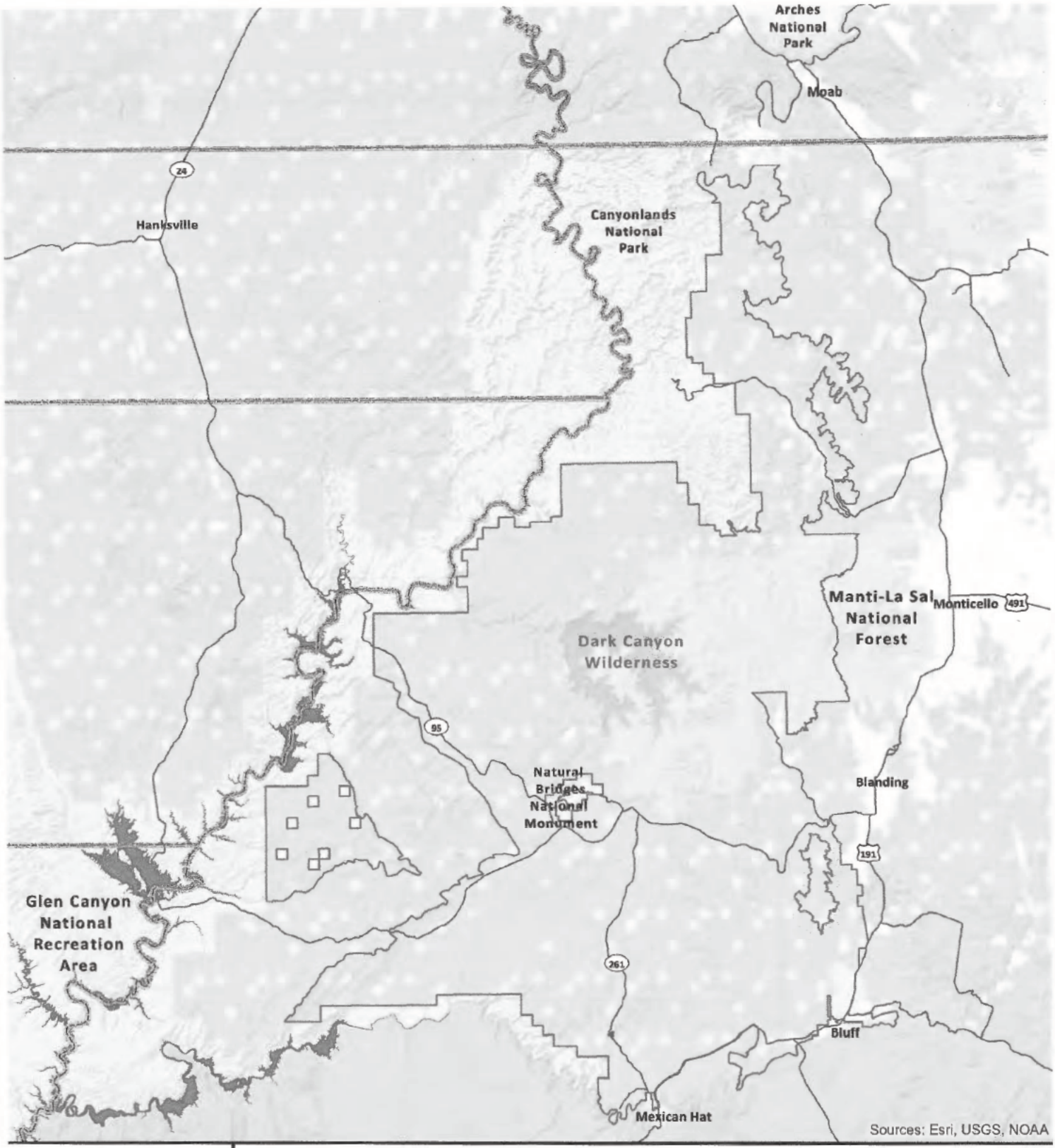
Wilson, C.J. 1974. Highway U-95 Archaeology: Comb Wash to Grand Flat Volume II. Report to Utah State Department of Highways. May 1973. 217 Pp.

Wilson, J.S. and J.P. Pitts. 2010. Phylogeographic analysis of the nocturnal velvet ant genus Dilophotopsis (Hymenoptera: Mutillidae) provides insights into diversification in the Nearctic deserts. Biological journal of the Linnean Society, 101(2):360-375.

Wilson, J.S. and J.P. Pitts. 2011. Pleistocene connection between the Nearctic Mediterranean and desert regions in the Sphaeropthalma unicolor species-complex (Hymenoptera: Mutillidae). Insect Conservation and Diversity, 4(3), 222-234.

Wilson, J.S. and J.P. Pitts. 2012. Identifying Pleistocene refugia in North American cold deserts using phylogeographic analyses and ecological niche modelling. Diversity and Distributions, 18(11), 1139-1152.

Wright, D.J. 2011. Review of the Eucosma pulveratana (Walsingham) species group, with descriptions of eight new species (Tortricidae). Journal of the Lepidopterists' Society, 65(2), 101-118.



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ESTABLISHMENT OF THE BEARS EARS NATIONAL MONUMENT

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BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

Rising from the center of the southeastern Utah landscape and visible from every direction are twin buttes so distinctive that in each of the native languages of the region their name is the same: Hoon'Naqvut, Shash Jáa, Kwiyagatu Nukavachi, Ansh An Lashokdiwe, or "Bears Ears." For hundreds of generations, native peoples lived in the surrounding deep sandstone canyons, desert mesas, and meadow mountaintops, which constitute one of the densest and most significant cultural landscapes in the United States. Abundant rock art, ancient cliff dwellings, ceremonial sites, and countless other artifacts provide an extraordinary archaeological and cultural record that is important to us all, but most notably the land is profoundly sacred to many Native American tribes, including the Ute Mountain Ute Tribe, Navajo Nation, Ute Indian Tribe of the Uintah Ouray, Hopi Nation, and Zuni Tribe.

The area's human history is as vibrant and diverse as the ruggedly beautiful landscape. From the earliest occupation, native peoples left traces of their presence. Clovis people hunted among the cliffs and canyons of Cedar Mesa as early as 13,000 years ago, leaving behind tools and projectile points in places like the Lime Ridge Clovis Site, one of the oldest known archaeological sites in Utah. Archaeologists believe that these early people hunted mammoths, ground sloths, and other now-extinct megafauna, a narrative echoed by native creation stories. Hunters and gatherers continued to live in this region in the Archaic Period, with sites dating as far back as 8,500 years ago.

Ancestral Puebloans followed, beginning to occupy the area at least 2,500 years ago, leaving behind items from their daily life such as baskets, pottery, and weapons. These early farmers of Basketmaker II and III and builders of Pueblo I, II and III left their marks on the land. The remains of single family dwellings, granaries, kivas, towers, and large villages and roads linking them together reveal a complex cultural history. "Moki steps," hand and toe holds carved into steep canyon walls by the Ancestral Puebloans, illustrate the early people's ingenuity and perseverance and are still used today to access dwellings along cliff walls. Other, distinct cultures have thrived here as well—the Fremont People, Numic- and Athabaskan-speaking hunter-gatherers, and Utes and Navajos. Resources such as the Doll House Ruin in Dark Canyon Wilderness Area and the Moon House Ruin on Cedar Mesa allow visitors to marvel at artistry and architecture that have withstood thousands of seasons in this harsh climate.

The landscape is a milieu of the accessible and observable together with the inaccessible and hidden. The area's petroglyphs and pictographs capture the imagination with images dating back at least 5,000 years and spanning a range of styles and traditions. From life-size ghostlike figures that defy categorization, to the more literal depictions of bighorn sheep, birds, and lizards, these drawings enable us to feel the humanity of these ancient artists. The Indian Creek area contains spectacular rock art, including hundreds of petroglyphs at Newspaper Rock.

Visitors to Bears Ears can also discover more recent rock art left by the Ute, Navajo, and Paiute peoples. It is also the less visible sites, however—those that supported the food gathering, subsistence and ceremony of daily life—that tell the story of the people who lived here. Historic remnants of Native American sheep-herding and farming are scattered throughout the area, and pottery and Navajo hogans record the lifeways of native peoples in the 19th and 20th centuries.

For thousands of years, humans have occupied and stewarded this land. With respect to most of these people, their contribution to the historical record is unknown, but some have played a more public role. Famed Navajo headman K'aayélii was born around 1800 near the twin Bears Ears buttes. His band used the area's remote canyons to elude capture by the U.S. Army and avoid the fate that befell many other Navajo bands: surrender, the Long Walk, and forced relocation to Bosque Redondo. Another renowned 19th century Navajo leader, "Hastiin Ch'ihaajin" Manuelito, was also born near the Bears Ears.

The area's cultural importance to Native American tribes continues to this day. As they have for generations, these tribes and their members come here for ceremonies and to visit sacred sites. Throughout the region, many landscape features, such as Comb Ridge, the San Juan River, and Cedar Mesa, are closely tied to native stories of creation, danger, protection, and healing. The towering spires in the Valley of the Gods are sacred to the Navajo, representing ancient Navajo warriors frozen in stone. Traditions of hunting, fishing, gathering, and wood cutting are still practiced by tribal members, as is collection of medicinal and ceremonial plants, edible herbs, and materials for crafting items like baskets and footwear. The traditional ecological knowledge amassed by the Native Americans whose ancestors inhabited this region, passed down from generation to generation, offers critical insight into the historic and scientific significance of the area. Such knowledge is, itself, a resource to be protected and used in understanding and managing this landscape sustainably for generations to come.

Euro-Americans first explored the Bears Ears area during the 18th century, and Mormon settlers followed in the late 19th century. The San Juan Mission expedition traversed this rugged country in 1880 on their journey to establish a new settlement in what is now Bluff, Utah. To ease the passage of wagons over the slick rock slopes and through the canyonlands, the settlers smoothed sections of the rock surface and constructed dugways and other features still visible along their route, known as the Hole-in-the-Rock Trail. Cabins, corrals, trails, and carved inscriptions in the rock reveal the lives of ranchers, prospectors, and early archaeologists. Cattle rustlers and other outlaws created a convoluted trail network known as the Outlaw Trail, said to be used by Butch Cassidy and the Sundance Kid. These outlaws took advantage of the area's network of canyons, including the aptly-named Hideout Canyon, to avoid detection.

The area's stunning geology, from sharp pinnacles to broad mesas, labyrinthine canyons to solitary hoodoos, and verdant hanging gardens to bare stone arches and natural bridges, provides vital insights to geologists. In the east, the Abajo Mountains tower, reaching elevations of more than 11,000 feet. A long geologic history is documented in the colorful rock layers visible in the area's canyons.

For long periods over 300 million years ago, these lands were inundated by tropical seas and hosted thriving coral reefs. These seas infused the area's black rock shale with salts as they

receded. Later, the lands were bucked upwards multiple times by the Monument Upwarp, and near-volcanoes punched up through the rock, leaving their marks on the landscape without reaching the surface. In the sandstone of Cedar Mesa, fossil evidence has revealed large, mammal-like reptiles that burrowed into the sand to survive the blistering heat of the end of the Permian Period, when the region was dominated by a seaside desert. Later, in the Late Triassic Period more than 200 million years ago, seasonal monsoons flooded an ancient river system that fed a vast desert here.

The paleontological resources in the Bears Ears area are among the richest and most significant in the United States, and protection of this area will provide important opportunities for further archaeological and paleontological study. Many sites, such as Arch Canyon, are teeming with fossils, and research conducted in the Bears Ears area is revealing new insights into the transition of vertebrate life from reptiles to mammals and from sea to land. Numerous ray-finned fish fossils from the Permian Period have been discovered, along with other late Paleozoic Era fossils including giant amphibians, synapsid reptiles, and important plant fossils. Fossilized traces of marine and aquatic creatures such as clams, crayfish, fish, and aquatic reptiles have been found in Indian Creek's Chinle Formation, dating to the Triassic Period, and phytosaur and dinosaur fossils from the same period have been found along Comb Ridge. Paleontologists have identified new species of plant-eating crocodile-like reptiles and mass graves of lumbering sauropods, along with metoposaurus, crocodiles, and other dinosaur fossils. Fossilized trackways of early tetrapods can be seen in the Valley of the Gods and in Indian Creek, where paleontologists have also discovered exceptional examples of fossilized ferns, horsetails, and cycads. The Chinle Formation and the Wingate, Kayenta, and Navajo Formations above it provide one of the best continuous rock records of the Triassic-Jurassic transition in the world, crucial to understanding how dinosaurs dominated terrestrial ecosystems and how our mammalian ancestors evolved. In Pleistocene Epoch sediments, scientists have found traces of mammoths, short-faced bears, ground sloths, primates, and camels.

From earth to sky, the region is unsurpassed in wonders. The star-filled nights and natural quiet of the Bears Ears area transport visitors to an earlier eon. Against an absolutely black night sky, our galaxy and others more distant leap into view. As one of the most intact and least roaded areas in the contiguous United States, Bears Ears has that rare and arresting quality of deafening silence.

Communities have depended on the resources of the region for hundreds of generations. Understanding the important role of the green highlands in providing habitat for subsistence plants and animals as well as capturing and filtering water from passing storms, the Navajo refer to such places as "Nahodishgish," or places to be left alone. Local communities seeking to protect the mountains for their watershed values have long recognized the importance of the Bears Ears' headwaters. Wildfires, both natural and human-set, have shaped and maintained forests and grasslands of this area for millennia. Ranchers have relied on the forests and grasslands of the region for ages, and hunters come from across the globe for a chance at a bull

elk or other big game. Today, ecological restoration through the careful use of wildfire and management of grazing and timber is working to restore and maintain the health of these vital watersheds and grasslands.

The diversity of the soils and microenvironments in the Bears Ears area provide habitat for a wide variety of vegetation. The highest elevations, in the Elk Ridge area of the Manti-La Sal National Forest, contain pockets of ancient Engelmann spruce, ponderosa pine, aspen, and subalpine fir. Mesa tops include pinyon-juniper woodlands along with big sagebrush, low sage, blackbrush, rabbitbrush, bitterbrush, four-wing saltbush, shadscale, winterfat, Utah serviceberry, western chokecherry, hackberry, barberry, cliff rose, and greasewood. Canyons contain diverse vegetation ranging from yucca and cacti such as prickly pear, claret cup, and Whipple's fishhook to mountain mahogany, ponderosa pine, alder, sagebrush, birch, dogwood, and Gambel's oak, along with occasional stands of aspen. Grasses and herbaceous species such as bluegrass, bluestem, giant ryegrass, ricegrass, needle and thread, yarrow, common mallow, balsamroot, low larkspur, horsetail, and peppergrass also grow here, as well as pinnate spring parsley, Navajo penstemon, Canyonlands lomatium, and the Abajo daisy.

Tucked into winding canyons are vibrant riparian communities characterized by Fremont cottonwood, western sandbar willow, yellow willow, and box elder. Numerous seeps provide year-round water and support delicate hanging gardens, moisture-loving plants, and relict species such as Douglas fir. A few populations of the rare Kachina daisy, endemic to the Colorado Plateau, hide in shaded seeps and alcoves of the area's canyons. A genetically distinct population of Kachina daisy was also found on Elk Ridge. The alcove columbine and cave primrose, also regionally endemic, grow in seeps and hanging gardens in the Bears Ears landscape. Wildflowers such as beardtongue, evening primrose, aster, Indian paintbrush, yellow and purple beeflower, straight bladderpod, Durango tumble mustard, scarlet gilia, globe mallow, sand verbena, sego lily, cliffrose, sacred datura, monkey flower, sunflower, prince's plume, hedgehog cactus, and columbine, bring bursts of color to the landscape.

The diverse vegetation and topography of the Bears Ears area, in turn, support a variety of wildlife species. Mule deer and elk range on the mesas and near canyon heads, which provide crucial habitat for both species. The Cedar Mesa landscape is home to bighorn sheep which were once abundant but still live in Indian Creek, and in the canyons north of the San Juan River. Small mammals such as desert cottontail, black-tailed jackrabbit, prairie dog, Botta's pocket gopher, white-tailed antelope squirrel, Colorado chipmunk, canyon mouse, deer mouse, pinyon mouse, and desert woodrat, as well as Utah's only population of Abert's tassel-eared squirrels, find shelter and sustenance in the landscape's canyons and uplands. Rare shrews including a variant of Merriam's shrew and the dwarf shrew can be found in this area.

Carnivores, including badger, coyote, striped skunk, ringtail, gray fox, bobcat, and the occasional mountain lion, all hunt here, while porcupines use their sharp quills and climbing abilities to escape these predators. Oral histories from the Ute describe the historic presence of bison, antelope, and abundant bighorn sheep, which are also depicted in ancient rock art. Black bear pass through the area but are rarely seen, though they are common in the oral histories and legends of this region, including those of the Navajo.

Consistent sources of water in a dry landscape draw diverse wildlife species to the area's riparian habitats, including an array of amphibian species such as tiger salamander, red-spotted toad, Woodhouse's toad, canyon tree frog, Great Basin spadefoot, and northern leopard frog. Even the most sharp-eyed visitors probably will not catch a glimpse of the secretive Utah night lizard. Other reptiles in the area include the sagebrush lizard, eastern fence lizard, tree lizard, side-blotched lizard, plateau striped whiptail, western rattlesnake, night snake, striped whipsnake, and gopher snake.

Raptors such as the golden eagle, peregrine falcon, bald eagle, northern harrier, northern goshawk, red-tailed hawk, ferruginous hawk, American kestrel, flammulated owl, and great horned owl hunt their prey on the mesa tops with deadly speed and accuracy. The largest contiguous critical habitat for the threatened Mexican spotted owl is on the Manti-La Sal National Forest. Other bird species found in the area include Merriam's turkey, Williamson's sapsucker, common nighthawk, white-throated swift, ash-throated flycatcher, violet-green swallow, cliff swallow, mourning dove, pinyon jay, sagebrush sparrow, canyon towhee, rock wren, sage thrasher, and the endangered southwestern willow flycatcher.

As the skies darken in the evenings, visitors may catch a glimpse of some the area's at least 15 species of bats, including the big free-tailed bat, pallid bat, Townsend's big-eared bat, spotted bat, and silver-haired bat. Tinajas, rock depressions filled with rainwater, provide habitat for many specialized aquatic species, including pothole beetles and freshwater shrimp. Eucosma navajoensis, an endemic moth that has only been described near Valley of the Gods, is unique to this area.

Protection of the Bears Ears area will preserve its cultural, prehistoric, and historic legacy and maintain its diverse array of natural and scientific resources, ensuring that the prehistoric, historic, and scientific values of this area remain for the benefit of all Americans. The Bears Ears area has been proposed for protection by members of Congress, Secretaries of the Interior, state and tribal leaders, and local conservationists for at least 80 years. The area contains numerous objects of historic and of scientific interest, and it provides world class outdoor recreation opportunities, including rock climbing, hunting, hiking, backpacking, canyoneering, whitewater rafting, mountain biking, and horseback riding. Because visitors travel from near and

far, these lands support a growing travel and tourism sector that is a source of economic opportunity for the region.

WHEREAS, section 320301 of title 54, United States Code (known as the "Antiquities Act"), authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Federal Government to be national monuments, and to reserve as a part thereof parcels of land, the limits of which shall be confined to the smallest area compatible with the proper care and management of the objects to be protected;

WHEREAS, it is in the public interest to preserve the objects of scientific and historic interest on the Bears Ears lands;

NOW, THEREFORE, I, BARACK OBAMA, President of the United States of America, by the authority vested in me by section 320301 of title 54, United States Code, hereby proclaim the objects identified above that are situated upon lands and interests in lands owned or controlled by the Federal Government to be the Bears Ears National Monument (monument) and, for the purpose of protecting those objects, reserve as part thereof all lands and interests in lands owned or controlled by the Federal Government within the boundaries described on the accompanying map, which is attached to and forms a part of this proclamation. These reserved Federal lands and interests in lands encompass approximately 1.35 million acres. The boundaries described on the accompanying map are confined to the smallest area compatible with the proper care and management of the objects to be protected.

All Federal lands and interests in lands within the boundaries of the monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or other disposition under the public land laws or laws applicable to the U.S. Forest Service, from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument.

The establishment of the monument is subject to valid existing rights, including valid existing water rights. If the Federal Government acquires ownership or control of any lands or interests in lands that it did not previously own or control within the boundaries described on the accompanying map, such lands and interests in lands shall be reserved as a part of the monument, and objects identified above that are situated upon those lands and interests in lands shall be part of the monument, upon acquisition of ownership or control by the Federal Government.

The Secretary of Agriculture and the Secretary of the Interior (Secretaries) shall manage the monument through the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM), pursuant to their respective applicable legal authorities, to implement the purposes of this proclamation. The USFS shall manage that portion of the monument within the boundaries of the National Forest System (NFS), and the BLM shall manage the remainder of the monument. The lands administered by the USFS shall be managed as part of the Manti-La Sal National Forest. The lands administered by the BLM shall be managed as a unit of the National Landscape Conservation System, pursuant to applicable legal authorities.

For purposes of protecting and restoring the objects identified above, the Secretaries shall jointly prepare a management plan for the monument and shall promulgate such regulations for its management as they deem appropriate. The Secretaries, through the USFS and the BLM, shall consult with other federal land management agencies in the local area, including the National Park Service, in developing the management plan. In promulgating any management rules and regulations governing the NFS lands within the monument and developing the management plan, the Secretary of Agriculture, through the USFS, shall consult with the Secretary of the Interior through the BLM. The Secretaries shall provide for maximum public involvement in the development of that plan including, but not limited to, consultation with federally recognized tribes and state and local governments. In the development and implementation of the management plan, the Secretaries shall maximize opportunities, pursuant to applicable legal authorities, for shared resources, operational efficiency, and cooperation.

The Secretaries, through the BLM and USFS, shall establish an advisory committee under the Federal Advisory Committee Act (5 U.S.C. App.) to provide information and advice regarding the development of the management plan and, as appropriate, management of the monument. This advisory committee shall consist of a fair and balanced representation of interested stakeholders, including state and local governments, tribes, recreational users, local business owners, and private landowners.

In recognition of the importance of tribal participation to the care and management of the objects identified above, and to ensure that management decisions affecting the monument reflect tribal expertise and traditional and historical knowledge, a Bears Ears Commission (Commission) is hereby established to provide guidance and recommendations on the development and implementation of management plans and on management of the monument. The Commission shall consist of one elected officer each from the Hopi Nation, Navajo Nation, Ute Mountain Ute Tribe, Ute Indian Tribe of the Uintah Ouray, and Zuni Tribe, designated by the officers' respective tribes. The Commission may adopt such procedures as it deems necessary to govern its activities, so that it may effectively partner with the Federal agencies by making continuing contributions to inform decisions regarding the management of the monument.

The Secretaries shall meaningfully engage the Commission or, should the Commission no longer exist, the tribal governments through some other entity composed of elected tribal government officers (comparable entity), in the development of the management plan and to inform subsequent management of the monument. To that end, in developing or revising the management plan, the Secretaries shall carefully and fully consider integrating the traditional and historical knowledge and special expertise of the Commission or comparable entity. If the Secretaries decide not to incorporate specific recommendations submitted to them in writing by the Commission or comparable entity, they will provide the Commission or comparable entity with a written explanation of their reasoning. The management plan shall also set forth parameters for continued meaningful engagement with the Commission or comparable entity in implementation of the management plan.

To further the protective purposes of the monument, the Secretary of the Interior shall explore entering into a memorandum of understanding with the State that would set forth terms, pursuant to applicable laws and regulations, for an exchange of land currently owned by the State of Utah and administered by the Utah School and Institutional Trust Lands Administration within the boundary of the monument for land of approximately equal value managed by the BLM outside the boundary of the monument. The Secretary of the Interior shall report to me within 30 days regarding the potential for such an exchange.

Nothing in this proclamation shall be construed to interfere with the operation or maintenance, or the replacement or modification within the current authorization boundary, of existing utility, pipeline, or telecommunications facilities located within the monument in a manner consistent with the care and management of the objects identified above.

Nothing in this proclamation shall be deemed to enlarge or diminish the rights or jurisdiction of any Indian tribe. The Secretaries shall, to the maximum extent permitted by law and in consultation with Indian tribes, ensure the protection of Indian sacred sites and traditional cultural properties in the monument and provide access by members of Indian tribes for traditional cultural and customary uses, consistent with the American Indian Religious Freedom Act (42 U.S.C. 1996) and Executive Order 13007 of May 24, 1996 (Indian Sacred Sites), including collection of medicines, berries and other vegetation, forest products, and firewood for personal noncommercial use in a manner consistent with the care and management of the objects identified above.

For purposes of protecting and restoring the objects identified above, the Secretaries shall prepare a transportation plan that designates the roads and trails where motorized and non-motorized mechanized vehicle use will be allowed. Except for emergency or authorized administrative purposes, motorized and non-motorized mechanized vehicle use shall be allowed only on roads and trails designated for such use, consistent with the care and management of

such objects. Any additional roads or trails designated for motorized vehicle use must be for the purposes of public safety or protection of such objects.

Laws, regulations, and policies followed by USFS or BLM in issuing and administering grazing permits or leases on lands under their jurisdiction shall continue to apply with regard to the lands in the monument to ensure the ongoing consistency with the care and management of the objects identified above.

Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Utah, including its jurisdiction and authority with respect to fish and wildlife management.

Nothing in this proclamation shall preclude low-level overflights of military aircraft, the designation of new units of special use airspace, or the use or establishment of military flight training routes over the lands reserved by this proclamation consistent with the care and management of the objects identified above.

Nothing in this proclamation shall be construed to alter the authority or responsibility of any party with respect to emergency response activities within the monument, including wildland fire response.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the monument shall be the dominant reservation.

Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of the monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of ___, in the year of our Lord two thousand sixteen, and of the Independence of the United States of America the two hundred and forty-first.

BARACK OBAMA

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THE SECRETARY OF THE INTERIOR

WASHINGTON

August 15, 1996

Memorandum for the President

INTRODUCTION AND SUMMARY

In response to your request, attached as **Exhibit A** is a draft proclamation, with an accompanying map,[1] to establish the Grand Staircase-Escalante National Monument in southern Utah. This memorandum describes (a) the basis for my recommendation that you establish the Grand Staircase-Escalante National Monument, (b) the proclamation, and (c) the resources, ownership patterns and management issues present in the area. After careful review of the record, I am convinced that the objects satisfy the criteria for establishment of a national monument pursuant to the Antiquities Act, and that the boundaries of the land reserved represent the smallest area compatible with the proper care and management of those objects.

THE ANTIQUITIES ACT

Section 2 of the Antiquities Act, 16 U.S.C. § 431, authorizes the President to establish as national monuments "objects of historic or scientific interest that are situated upon the lands owned or controlled by the government of the United States." It further authorizes the President to reserve, as part of the monument, land that is "the smallest area compatible with the proper care and management of the objects to be protected."

A. Objects of Historic or Scientific Interest

The proposed Grand Staircase-Escalante National Monument is located on the Colorado Plateau in south-central Utah, within the drainage of the Colorado River. Elevation ranges from 4,100 to 8,200 feet

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[1] The boundaries of the proposed monument are drawn on the map entitled "Grand Staircase-Escalante National Monument," which would be attached to, and made a part of, your proclamation. A reduced version of this map suitable for publication would be promptly prepared should you decide to proceed. Because of the acreages involved, it is not practicable, as of this date, to describe the boundaries of the land reserved as a part of the monument either by metes and bounds or by reference to designated subdivisions on official surveys shown on publicly recorded plats or maps. The BLM will produce a description conforming to the BLM Specifications for Descriptions of Tracts of Land for Use in Land Orders and Proclamations as soon as practicable should you decide to proceed.

above sea level. The map appended to the proclamation attached as Exhibit A sets out the boundaries of the land reserved for the monument. The area covers about 1.7 million acres. The proclamation attached to this memo as Exhibit A vividly describes objects in the area that warrant protection as a monument, and **Exhibit B** lists historic and scientific objects in this area. Attached as **Exhibit C** is a bibliography of the principal sources of information relied upon in making this recommendation.

The area recommended to be included in the monument has remained isolated and relatively undisturbed and for the most part unroaded. Most of the land within the outer boundaries of the proposed monument is federally owned. The nonfederal land is owned mostly by the State of Utah in scattered 640 acre sections, the result of Utah's statehood land grant. Currently, the federal lands in the area are used primarily for scientific study, primitive recreation, and livestock grazing.

In the last few decades the area in question has been evaluated for the possibility of providing greater recognition of and legal protection for its resources. In the late 1970s, the area was evaluated for its "wilderness characteristics" under FLPMA, and several wilderness study areas, totaling about 900,000 acres, were established in the area covered by the proclamation. The documentation of these areas assembled in the wilderness inventory and study process has identified many of the objects of scientific and historic interest within the monument area.

Nearby federal lands have been recognized by Congress to contain scientific and historic features worthy of protection. For example, in 1972 Congress created the Glen Canyon National Recreation Area (GCNRA) in order to, among other things, "preserve [its] . . . scientific, and historic features contributing to public enjoyment of the area." 16 U.S.C. § 460dd. The GCNRA forms the eastern and part of the southern boundary of the area covered in the attached proclamation. Similarly, Congress established Canyonlands National Park to the northeast in 1964 in recognition of, among other things, its "scientific" and "archaeologic" features, 16 U.S.C. § 271.

More than one hundred national monuments have been established by Presidents over the past ninety years. Attached as **Exhibit D** is a complete list. **Exhibit E** lists the monuments by President. **Exhibit F** is a list of the monuments found wholly or partially on the Colorado Plateau, in the general vicinity of this monument. Most of the proclamations establishing these monuments cited geologic, paleontologic, archaeologic and other features similar to those in the attached proclamation. Many of them included substantial land areas, and/or were enlarged by subsequent proclamations or acts of Congress. A number of them ultimately were designated as National Parks by Congress.

For example, what is now Zion National Park to the west of the monument was originally established by President Taft as Mukuntuweap National Monument in 1909 in order to protect its "many natural features of unusual archaeologic, geologic, and geographic interest" (Proclamation No. 877, 36 Stat. 2498). President Wilson enlarged it in 1918 (Proclamation No. 1435, 40 Stat. 1760), and Congress made it into a national park in 1919 (16 U.S.C. § 344, 41 Stat. 356). President Franklin Roosevelt established Zion National Monument in an adjacent area in 1937 (Proclamation No. 2221, 50 Stat. 1809), and Congress merged it into Zion National Park in 1956 (70 Stat. 527).

President Hoover established Arches National Monument to the northeast in 1929, citing its "unique wind-worn sandstone formations, the preservation of which is desirable because of their educational and scenic value" (Proclamation No. 1875, 46 Stat. 2988). Arches was later expanded by Presidents Franklin Roosevelt and Johnson (Proclamation Nos. 2312 and 3887), and Congress made it a National Park in 1971 (16 U.S.C. § 272, 85 Stat. 422). President Roosevelt established Capitol Reef National Monument to the immediate east in 1938 to protect its "narrow canyons displaying evidence of ancient sand dune deposits of unusual scientific value, and . . . various other objects of geological and scientific interest" (Proclamation No. 2246, 50 Stat. 1856). Presidents Eisenhower and Johnson expanded it (Proclamation Nos. 3249 and 3888), and Congress made it a National Park in 1971 (85 Stat. 739). President Harding set aside Bryce Canyon National Monument to the immediate north and northwest in 1923, citing its "unusual scenic beauty, scientific interest and importance" (Proclamation No. 1664, 43 Stat. 1914) , and President Hoover expanded it twice, Proclamation Nos. 1930, 1952, 46 Stat. 3042, 47 Stat. 2455. Congress made it Utah National Park in 1924 (43 Stat. 593) and four years later changed its name to Bryce Canyon National Park (45 Stat. 147).

Farther west on the Colorado Plateau, Cedar Breaks National Monument was established by Franklin Roosevelt in 1933 to protect its "spectacular cliffs, canyons, and features of scenic, scientific, and educational interest" (Proclamation No. 2054, 48 Stat. 1705), and its boundary was subsequently revised by Congress in 1942 (56 Stat. 141) and 1961 (75 Stat. 198). President Theodore Roosevelt established Natural Bridges National Monument in 1908 to preserve "extraordinary examples of stream erosion" and "prehistoric ruins" (Proclamation No. 804, 35 Stat. 2183), and Presidents Taft, Wilson and Kennedy enlarged it (Proclamation Nos. 881, 1323, 3486). Rainbow Bridge National Monument was established by President Taft in 1910, who described it as "of great scientific interest as an example of eccentric stream erosion" (Proclamation No. 1043, 36 Stat. 2703).

The courts (including the U.S. Supreme Court) have occasionally been asked to review exercises of Presidential authority under the

Antiquities Act. They have uniformly upheld establishment of national monuments, e.g.:

Grand Canyon National Monument, on the basis of its unique geology, scientific interest and general public appeal, Cameron v. United States, 252 U.S. 450 (1920);

Devil's Hole National Monument, on the basis of its unique resident pupfish species and the hydrology of the water pool, Cappaert v. United States, 426 U.S. 128 (1976);

Jackson Hole National Monument, on the basis of the interrelationship of living systems, the geologic features and the history of the area, State of Wyoming v. Franke, 58 F. Supp. 890 (D. Wyo. 1945); and

Channel Islands National Monument, expanded on the basis of its varied marine life, fossils, and geology, United States v. California, 436 U.S. 32, 36 (1978).

B. Land Area Reserved for the Proper Care and Management of the Objects to be Preserved

The Antiquities Act authorizes the President, as part of his declaration of a national monument, to reserve land, "the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected." 16 U.S.C. § 431 (emphasis added). The area proposed for reservation has been carefully delineated, based on review of available information, to meet the goals of effectively caring for and managing the objects in perpetuity.

The area includes the archaeologic, biologic, paleontologic, geologic, and historic objects identified in the Proclamation and Exhibits B and C accompanying this letter. Some of these objects are present throughout the entire monument area, others are scattered within it, and several lie along the borders of the area. Many objects also overlap. Thus, the entire area is necessary for protection of the objects. Even if it were possible to reserve a smaller area by isolating certain objects, such a fragmentation of the proposed monument would endanger many of the objects, undermine the purposes of the monument itself, and create substantial impediments to effective management of the monument.

The area of the proposed monument is based on the conservation needs of the objects to be protected. Some of the objects identified are present throughout the area, and others cover immense, interconnected areas of land or depend for their scientific value on their location at various sites or elevations. Some of the scientific and historic value of certain objects comes from their scarcity and fragility or the fact that they have remained relatively undisturbed and unchanged. Preservation of

such objects (the biologic and archaeologic resources are examples) requires, among other things, protection of land surrounding them in order to maintain the relatively remote conditions that have made their continued existence possible.

Furthermore, the scientific value of many of the objects within the monument requires preservation of areas large enough to maintain the objects and their interactions. For example, species that exist because of the area's extraordinary geologic and environmental stability are distributed according to the geologic features to which they have adapted. Much of the biologic and other scientific interest in the area results from the variety of geologic substrates across elevational gradients. Many species must range within and through the area and neighboring protected areas to maintain viable populations and their role in the ecosystem. Thus, protection of the aggregate area is necessary for proper care of the objects. In addition, a number of the objects are distributed through multiple parts of the area; significant fossils, for example, are distributed throughout the Dakota, Tropic Shale, Straight Cliffs, Wahweap and Iron Springs Formations. Management of a patchwork of reserved lands would be impractical, as it would make it more difficult to care for the objects, reduce options for natural resource management and lead to inconsistent resource management standards for overlapping resources. In short, our analysis indicates that reservation of a smaller area would undermine proper care and management of the monument.

There is ample precedent for declaring analogous geologic, biologic and historic objects to be protected under the Antiquities Act, and reserving correspondingly large areas of land as part of their monument designations. President Theodore Roosevelt was the first President to exercise such presidential discretion in his reservation of over 800,000 acres as the Grand Canyon National Monument. More recent examples include the Wrangell-St. Elias National Monument, which encompassed 10,950,000 acres to protect an assemblage of mountain peaks, including Mount St. Elias and the Mount Wrangell volcano, and the flora and fauna of the Bremner and Chitina River Valleys. The Yukon Flats National Monument, consisting of approximately 10,600,000 acres, encompassed the largest and most complete example of an interior Alaskan solar basin with its associated ecosystem. In closer proximity, 1.6 million acres were initially reserved for the Death Valley National Monument, which Presidents subsequently expanded and Congress expanded again and protected as Death Valley National Park. At 1.7 million acres, the area that I recommend for reservation is comparable in size to some of the earlier Monuments that protected natural resources for scientific and historic purposes.

Many relatively large Monuments were later expanded because they were found to be too small for the care and management of their objects or associated objects. The history of Zion National Monument and Park, described above, provides one example. The area

of land that I recommend you reserve is based on our current understanding of the extent of, and interrelationships between, the objects to be protected.

Finally, although some of the objects to be protected in the proposed monument also exist in surrounding areas, I recommend that you reserve only the identified acreage for the monument. Many of these other areas are already protected under the jurisdiction of various federal or state agencies, with whom the Bureau of Land Management (the BLM) will work to assist in the conservation of shared resources. For example, objects in the eastern and southern end of the Escalante region not included in the proposed monument are subject to protective management in Glen Canyon Recreation Area and Capitol Reef National Park. While additional areas of the Grand Staircase also could have been included in the monument, by limiting the monument and its reserved land to that proposed, a portion of each aspect of the Grand Staircase will be federally protected in some manner, whether within this monument or within Zion or Bryce Canyon National Parks. Finally, the boundaries have been drawn to exclude many non-federal lands, and, for effective management, often lie along the border of BLM lands. In sum, based on available information, I recommend that you reserve only the area delineated on the map accompanying Exhibit A.

LEGAL EFFECTS OF THE PROCLAMATION

I direct your attention to several significant aspects of the proclamation attached as Exhibit A. First, it would reserve only the federal lands in the area, because the Antiquities Act applies only to "objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States." 16 U.S.C. § 431.

Second, the proclamation would be subject to valid existing rights. Thus, to the extent a person or entity already owns a valid property right in the federal lands or resources within the area, the exercise of such rights may be regulated in order to protect the purposes of the monument, but the regulation must respect such rights.

Third, the proclamation withdraws the federal lands in the area from "entry, location, selection, sale, leasing, or other disposition under the public land laws, other than by exchange that furthers the protective purposes of the monument." This withdrawal prevents the location of new mining claims in the area under the Mining Law, and prevents the Secretary of the Interior from exercising discretion under the mineral leasing acts and related laws to lease or sell federal minerals in the area.

Fourth, the proclamation would not reserve the water resources of the area under federal law pursuant to the so-called Winters

doctrine. Some of the objects to be protected under the proclamation (e.g., paleontology, archeology) do not require water. The proclamation would direct the Secretary to address, in the management plan described in the next paragraph, the extent to which water is necessary for the proper care and management of the objects of the monument, and the extent to which further action may be necessary pursuant to federal or state law to assure the availability of water.

Fifth, the proclamation would direct the Secretary to prepare a management plan for the area within three years. The plan, which would be prepared using the resource planning processes of FLPMA, would provide specific, on-the-ground guidance for protecting the objects within the monument, while permitting other uses to proceed where consistent with the purposes of the monument. While it is not possible, in advance of completion of the management plan, to set forth all the details of how existing or proposed future activities in the area would be affected in order to protect the purposes of the monument, the effects are described in general terms further below.

ADMINISTRATION OF THE MONUMENT

A. Management by the Bureau of Land Management

The federal lands in the area described in the attached proclamation are currently under the jurisdiction of the Bureau of Land Management (BLM) in the Department of the Interior. BLM manages the land pursuant to its basic organic authorities, the primary one being the Federal Land Policy and Management Act of 1976 (FLPMA).

I believe the area is best left under BLM management, and the attached proclamation would have the Secretary of the Interior manage the monument through the BLM. The result would be that management of the federal land would continue under the BLM's existing authorities, but subject to the overriding purpose of protecting the objects described in the proclamation. The establishment of the monument thus constitutes an overlay on the management regime otherwise applicable to lands managed by the BLM. It limits the management discretion that the BLM would otherwise have, by mandating protection of the historic and scientific objects within the national monument.

Congress has had before it over the past several years various bills that would designate parts of the area within the monument as wilderness. As noted earlier, about 900,000 acres in the monument have been classified as wilderness study areas pursuant to FLPMA, and managed by law to preserve their suitability for preservation as wilderness pursuant to the Wilderness Act of 1964, 16 U.S.C. §§ 1131-35, until Congress directs otherwise. See 43 U.S.C. § 1782.

The Wilderness Act of 1964 serves some values (e.g., outstanding opportunities for solitude and primitive and unconfined recreation) that are not addressed in the Antiquities Act of 1906 which, as noted earlier, serves to protect "objects of historic or scientific interest." Section 2(c) of the Wilderness Act does expressly acknowledge that a wilderness area "may . . . contain ecological, geological, or other features of scientific, educational ... or historic value," and section 4(b) directs that wilderness areas "shall be devoted to the public purposes" of, among others, "scientific, educational, conservation, and historical use."

The extent of any overlap between wilderness management and protecting the objects within this monument would be addressed in the process of preparing a management plan for this monument. Nothing in the proclamation establishing this monument would prevent the Executive from recommending, or Congress from designating, areas within the monument as wilderness. Congress has, in fact, many times in the past designated wilderness within existing national monuments, including the following monuments: Badlands, Bandelier, Black Canyon of the Gunnison, Chiricahua, Craters of the Moon, Joshua Tree, Lava Beds, Misty Fjords, Organ Pipe Cactus, Pinnacles, and Saguaro.

B. Impact of monument designation on existing or planned activities in the area

1. Currently permitted livestock grazing (including existing pipelines, water impoundments and similar range improvements), hunting, fishing, off-road vehicle use, and similar activities

These activities would generally not be affected at current levels or in current areas of use. The only exceptions are (1) where the management plan to be prepared identifies specific places where such uses ought to be restricted or prohibited as necessary to protect the objects protected by the monument proclamation; or (2) where, in advance of completion of the management plan, the BLM land manager finds a clear threat from such a use to an object protected by the designation and the circumstances demand swift protective action. Except in emergency situations, any restrictions on the current levels or areas of use of such activities will be adopted only after a public process and only where necessary to protect the purposes of the monument.

Such uses would, of course, remain subject to existing laws and regulations other than the Antiquities Act, and therefore remain subject to regulation under such provisions for reasons other than establishment of the monument.

2. Use of existing rights-of-way (such as those established under R.S. 2477 or Title V of FLPMA)

As noted earlier, the area covered by the proclamation has very few roads. Use of existing rights-of-way would generally be subject to the same standards as described in the preceding section addressing currently permitted uses. In some cases existing rights-of-way may include valid existing rights. The exercise of such rights may be regulated in order to protect the purposes of the monument, but any regulation must respect such rights.

3. Activities on state or private land

The area within the boundaries of the proclamation contains approximately 180,000 acres of state land (mostly checkerboarded, four sections to each township, pursuant to the terms of the Utah statehood act). It also contains approximately 15,000 acres of private land. The monument designation would not apply to those lands. The legal principles applicable to the use of these lands prior to establishment of the monument would continue to apply.

4. Mining claims

New mining claims would be prohibited as the proclamation withdraws the area from the Mining Law. Existing mining claims that contain a valid discovery of a valuable mineral deposit as of the date of the designation would contain valid existing rights. The exercise of such rights may be regulated in order to protect the purposes of the monument, but any regulation must respect such rights. Activities on existing mining claims that lack a discovery may be regulated to protect the purposes of the monument.

5. Coal Mining Proposals

The proposed monument contains coal resources, particularly in the Kaiparowits coal field. Limited mining for local use dates back decades, but has cumulatively totaled only a few thousand tons. Test mining of a few thousand additional tons took place in the 1970s, but there has never been a major mine, nor any other major development, in the area proposed for the monument. There have, however, been a number of proposals over the years to open coal mines and build power plants in the region.

In the mid-1960s the Department issued numerous coal leases to private entities in the Kaiparowits coal field. A number of these leases have expired or will expire in the near future. The principal remaining lessees are Pacificorp (successor to Utah Power & Light Co.) (about 18,000 acres) and Andalex Resources, Inc. (about 34,000 acres).

In the 1970s several mines and a large mine-mouth power plant were proposed in the area, but after extensive study and considerable public controversy, the proposals were withdrawn. The environmental impact statements prepared for the 1970s mines and power plant proposal were the first detailed cataloguing of much of

the scientific and historic resources of the area in the proposed monument.

Andalex Resources is the only major holder of federal coal leases in this area that has put forward a concrete proposal to develop its leases. The Department, along with the State of Utah, is in the process of preparing a draft environmental impact statement (EIS) under the National Environmental Policy Act (NEPA), on Andalex's proposal to open a mine in the Smoky Hollow area on the south side of the Kaiparowits Plateau. The mine would involve about 25,000 acres of land in the area covered by the proclamation, as well as require construction of a transmission line and a microwave communication system, and improvement of an existing road or construction of a new road to the mine site.

Andalex's current plan is for the coal to be trucked off the mine site via an existing dirt road (to be paved) south through the GCNRA, or through construction of a new road west and south of the mine site through BLM land. Either route would connect to the existing paved highway at Big Water, Utah, south of the area. From there the coal would continue by truck to a rail line near Cedar City, Utah, or Moapa, Nevada, and from there by rail to customers in the southwest and to the Port of Long Beach to be transported by ship to consumers in the Far East. The proposed mine would operate for more than a half century. Haul trucks would operate 24 hours a day, 365 days a year, with loaded trucks dispatched from the mine at 8 to 10 minute intervals.

The company has applied for a number of permits, rights-of-way, and other authorizations required by federal and state law. The draft EIS on the proposal is expected to be published for public comment in the next few months. Following publication of the draft and a public comment period, a final EIS must be prepared before a final decision on the proposal can be made. The company must receive a favorable decision before any mining can begin.

Establishment of the national monument introduces an important new consideration into the decisionmaking process regarding the proposed mine. Significant questions remaining include (a) whether the proposed project is inconsistent with the purposes of the monument; and (b) whether and to what extent the company has valid existing rights that would have to be addressed. On this second point, the federal coal leases held by Andalex do not convey absolute rights to develop coal. Among other things, the leases are subject to other applicable legal requirements, and do not convey rights of way across federal land located off the leasehold. These rights of way remain subject to an independent federal permit requirement.

One of the other major holders of federal coal leases in the area, Pacificorp, has indicated its interest in relinquishing its leases. My staff has been actively discussing with the company ways to

accomplish this, including an exchange for bidding rights on other federal mineral leases. Andalex has in the past rebuffed Departmental inquiries regarding possible relinquishment of their leases, but I would seek to explore this possibility again if you establish this monument. In order to allow time to assess the company's willingness to pursue alternatives to the proposed project, I would, unless you direct otherwise, suspend the EIS preparation process upon creation of the monument to allow Andalex to assess the situation. Should Andalex not wish to move toward relinquishing the Kaiparowits leases, I would restart the EIS process and move it to completion and an ultimate decision on whether the proposed mine, including associated rights-of-way, can go forward consistent with existing law, including the monument proclamation.

CONCLUSION

Establishing the Grand Staircase-Escalante National Monument would be an exemplary exercise of Presidential authority under the Antiquities Act, well in keeping with past practice through which many notable objects of historic and scientific interest have been preserved, to the Nation's great and lasting benefit. I strongly recommend you sign the proclamation.

The Secretary of the Interior

DEC 14 2016

MEMORANDUM FOR THE PRESIDENT

FROM: SALLY JEWELL

THOMAS J. VILSACK

SUBJECT: Recommendation for the Proposed Bears Ears National Monument

This memorandum is in response to your April 2, 2014, request for a recommendation regarding the exercise of your Executive authority to protect objects of historic or scientific interest on lands owned or controlled by the United States. We are pleased to present you this memorandum, which recommends that you designate certain Federal lands in San Juan County, Utah as the Bears Ears National Monument. We describe herein (a) the background for our recommendation, (b) the objects of historic and scientific interest proposed for protection under the Antiquities Act, and (c) the legal and management provisions proposed for the protection of these objects. After careful review of the record and a public meeting, we have concluded that the objects of scientific and historic interest located on the lands owned or controlled by the United States within the boundaries set forth on the accompanying map satisfy the criteria for establishment of a national monument pursuant to the Antiquities Act. Attached is a draft proclamation and map for the proposed Bears Ears National Monument.

BACKGROUND

In southeastern Utah, the iconic and magnificent mesas and canyonlands of the Bears Ears landscape have been a vital resource for native peoples for thousands of years. Among the most significant cultural landscapes in the United States, this area is known for its important historic and prehistoric resources, its unique geologic features, and its ecological significance. The area's abundant rock art, dwellings, ceremonial sites, granaries, and many other cultural resources reflect its long term historical and cultural significance to a variety of Native American peoples. In the past 200 years, the area has been traversed by Mormon pioneers, early archaeologists, and outlaws and subsequently settled by ranchers, miners, and homesteaders. The stark landscape of the Bears Ears area provides a home to a stunning variety of plant and animal life, including endemic species that inhabit rare habitat types such as hanging gardens and tinajas. The area's incredible geology has inspired scientists and explorers alike, and the resources found here provide an enduring testament to the natural and human history of this spectacular area.

The boundaries of the proposed national monument, as set forth in the attached map[1], encompass approximately 1,351,849 acres of Federal lands currently managed by the Department of the Interior's Bureau of Land Management (BLM) and the Department of Agriculture's United States Forest Service (USFS). Within the boundaries are approximately 109,106 acres of land held by the State and 12,652 acres of privately-owned land. Over 380,000 acres of the Federal lands within the boundaries are currently managed by BLM as Wilderness Study Areas (WSAs), specifically the Indian Creek, Bridger Jack Mesa, South Needles, Butler Wash, Dark Canyon, Cheesebox Canyon, Mule Canyon, Fish Creek Canyon, Grand Gulch, Road Canyon, and Mancos Mesa WSAs. In addition, the 2015 Monticello Resource Management Plan designated the Indian Creek, White Canyon, Dark Canyon, Cedar Mesa, Beef Basin, Canyon Rims, San Juan River, and Tank Bench Special Recreation Management Areas (SRMAs) as well as the Valley of the Gods, Lavender Mesa, San Juan River, Shay Canyon, and Indian Creek Areas of Critical Environmental Concern (ACECs). The Manti-La Sal National Forest administers the 46,353-acre Dark Canyon Wilderness just north of the Bears Ears formation, as well as the Cliff Dwellers Research Natural Research Area.

The Bears Ears area has been proposed for protection by members of Congress, Secretaries of the Interior, State and tribal leaders, and local conservationists for at least 80 years. Currently, there is significant local and national support for permanently protecting this area, whether through legislation or presidential proclamation under the Antiquities Act. Legislation that would designate two National Conservation Areas and a Wilderness area within the Bears Ears landscape – totaling approximately 1.4 million acres – was introduced by Rep. Rob Bishop (R-1-UT) and Rep. Jason Chaffetz (R-3-UT) in 2016 following 3 years of outreach to local communities and stakeholders. In September of this year, BLM Director Neil Kornze testified for the Administration before the House Natural Resources Committee in support of establishing conservation designations in this area, but could not support the specifics of the designating language or other provisions in the bill.

Native American tribes whose ancestral lands include the Bears Ears area have been instrumental in building support for permanent protection, led by the Bears Ears Inter-Tribal Coalition made up of the Hopi Tribe, Navajo Nation, Ute Indian Tribe of the Uintah Ouray, Ute Mountain Ute Tribe, and Zuni Pueblo. Numerous tribes with ties to the region, including the above tribes forming the Inter-Tribal Coalition, have passed resolutions and sent letters in support of using the Antiquities Act to designate a National Monument in the Bears Ears Area. The Utah Tribal Leaders Association, All Pueblo Council of Governors, Native American Rights Fund, and National Congress of American Indians have all formally expressed support for designation of a National Monument. Six out of seven Navajo Chapter Houses in Utah also support permanent protection of this important area, and more than 1,300 Native Americans from the Four Corners region sent in postcards in favor of a National Monument.

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[1] The boundaries of the proposed monument are drawn on the map entitled "Bears Ears National Monument," which would be finalized, attached to, and made a part of, your proclamation. It is not practicable, as of this date, to describe the boundaries of the land reserved as part of the monument either by metes and bounds or by reference to designated subdivisions on official surveys shown on publicly recorded plats or maps. The Bureau of Land Management (BLM) will produce a description conforming to the BLM Specifications for Descriptions of Tracts of Land for Use in Land Orders and Proclamations as soon as practicable thereafter, should you decide to declare a national monument.

The Administration has received letters from many local elected officials in Utah supporting the permanent protection and conservation of this area through a National Monument designation, including the Utah Senate Minority Leader. More than 50 diverse national and local organizations including Friends of Cedar Mesa, Utah Diné Bikéyah, Grand Canyon Trust, Conservation Lands Foundation, The Wilderness Society, Southern Utah Wilderness Alliance, Access Fund, and Creation Justice Ministries also support a National Monument designation, as do 70 outdoor industry companies. Over 500 professional archaeologists signed a letter to the Administration supporting use of the Antiquities Act to protect the Bears Ears landscape, and the National Trust for Historic Preservation included the Bears Ears region in their 2016 list of America's 11 Most Endangered Historic Places, calling for a National Monument designation. A May 2016 poll conducted by Public Opinion Strategies found that 71 percent of Utah voters support the proposed monument, which was also endorsed by the Salt Lake Tribune and Los Angeles Times in 2016.

In July of this year, Secretary Jewell had the opportunity to explore these incredible lands, hiking to ancient cliff dwellings and petroglyph panels and learning firsthand what makes this area so unique. She was joined by Department of Agriculture Under Secretary for Natural Resources and Environment Robert Bonnie, Principal Deputy Assistant Secretary for Indian Affairs Larry Roberts, U.S. Forest Service Chief Thomas Tidwell, BLM Director Neil Kornze, National Park Service Director Jon Jarvis, and staff from the offices of Governor Herbert, Congressman Chaffetz, Congressman Bishop, Senator Lee, and Senator Hatch. At a public meeting held in Bluff, Utah, an overflow crowd of over 1,500 citizens came to share their views. The majority of speakers encouraged permanent protection for this iconic landscape, as did the majority of almost 600 written comments.

The vast majority of local, State, and Federal stakeholders and elected officials believe that the area should be protected. However, there is some opposition, including from the congressional delegation and many county and local elected officials, to the use of the Antiquities Act as the tool to achieve protection. In addition, some local community members have raised concerns that an increase in tourism and visitation without additional law enforcement and cultural and natural resource capacity could result in damage to the resources. As noted previously, one of the seven Navajo Chapter Houses in Utah is opposed to the monument primarily because of their erroneous belief that a monument would eliminate their ability to engage in traditional cultural and customary uses.

Communities have depended on the resources of the region for thousands of years. Understanding the important role of the green highlands in providing habitat for important subsistence plants and animals as well as capturing and filtering water from passing storms, the Navajo refer to such places as "Nahodishgish" or places to be left alone. Most recently, many 20th century residents acknowledged the need to protect, in particular, the watersheds and headwaters of their water sources, recognizing that overgrazing and overly aggressive timber harvesting was causing soil erosion and subsequent flooding. This led to early calls for protection of the forested lands above communities such as Monticello and Blanding. Wildfire, both natural and human-set have shaped and maintained forests and grasslands of this area for millennia. Tribal and other ranchers have long grazed their herds on the Manti-La Sal National Forest. Today, ecological restoration through the careful use of wildfire and management of

grazing and timber is working to restore and maintain the health of these vital watersheds and grasslands.

Every year, thousands of national and international visitors hike, backpack, canyoneer, mountain bike, hunt, and rock climb in the Bears Ears area. Remote canyons deep within designated Wilderness and Wilderness Study Areas provide a wilderness experience for those seeking solitude and primitive recreational experiences. Indian Creek is world famous for its outstanding opportunities for crack climbing and the San Juan River, which forms part of the southern boundary of the Bears Ears area, is popular among whitewater rafters. Today, cyclists and motorists can follow the path of 19th Century Mormon pioneers along the rugged Hole in the Rock trail. Scenic and treacherous, the drive up to Cedar Mesa from Valley of the Gods using the Moki Dugway is a popular trip for those willing to brave the steep grade and narrow switchbacks. The Valley of the Gods has also been used as a backdrop for Hollywood films and television. Hundreds of significant archaeological and cultural sites, such as Butler Wash Ruin, Mule Canyon Ruin, and Newspaper Rock offer visitors the opportunity to experience and better understand the area's long and storied Native American history. The Elk Ridge-Dark Canyon recreation area in the Manti-La Sal National Forest attracts many hikers and backpackers interested in viewing archaeological sites and experiencing the magnificent depths of the canyon. The Manti-La Sal National Forest's Elk Ridge and Abajo Mountains draw hunters from across the world for a chance to hunt a bull elk, or other big game such as deer, black bear, or mountain lions.

As described in more detail below, this area contains numerous objects of historic or scientific interest including geological features, fossils, vital habitat, archaeological resources, and significant sites from Native American, colonial, and American history. This memorandum and the draft proclamation describe scientific and historic objects that warrant protection as a national monument. The attached bibliography contains the principal sources of information relied upon in making this recommendation.

THE ANTIQUITIES ACT

Section 320301 of Title 54 of the United States Code, commonly known as "the Antiquities Act," provides, in relevant part, as follows:

> (a) PRESIDENTIAL DECLARATION.—The President may, in the President's discretion, declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated on land owned or controlled by the Federal government to be national monuments.
>
> (b) RESERVATION OF LAND.—The President may reserve parcels of land as a part of the national monuments. The limits of the parcels shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.
>
> (c) RELINQUISHMENT TO FEDERAL GOVERNMENT.—When an object is situated on a parcel covered by a bona fide unperfected claim or held in private ownership, the parcel, or so much of the parcel as may be necessary for the proper care and

> management of the object, may be relinquished to the Federal government and the Secretary may accept the relinquishment of the parcel on behalf of the Federal Government.

First exercised by President Theodore Roosevelt in 1906 to designate Devils Tower in Wyoming as a national monument, this authority is one of the most important tools used by presidents to protect areas of natural, scientific, and historic importance and achieve conservation goals. The areas designated under the Antiquities Act by 16 presidents since 1906 include some of the most inspiring natural and historic features in America, including the Grand Canyon and the Statue of Liberty. You have exercised this authority to expand 3 existing national monuments and to designate 24 new national monuments, including Organ Mountains-Desert Peaks National Monument managed by BLM in New Mexico, the San Gabriel Mountains National Monument managed by USFS in California, and the Berryessa Snow Mountain National Monument, which is managed jointly by BLM and USFS.

A. Objects of Historic or Scientific Interest

The human history of the Bears Ears area is as vibrant and diverse as the ruggedly beautiful landscape it encompasses. Abundant historic resources found here attest to the significance of this land to many peoples over several millennia. Objects left behind by this multi-layered history not only enhance the experience of visitors to the proposed monument, but represent a vital scientific resource for paleontologists, archaeologists, geologists, biologists, and historians and perhaps most importantly for many Native American tribes, a tie binding them to their ancestral lands.

People hunted and gathered on Cedar Mesa as early as 13,000 years ago, though relatively few material objects have been found to document their presence up to and during the Archaic period. One exception is the Lime Ridge Clovis Site in the far southeast portion of the Bears Ears landscape. Many tools and projective points have been found at this well-documented lithic Clovis site. The Clovis hunters would have encountered a cooler, wetter climate from the one that humans experience in the Bears Ears landscape today. Trees and plants currently found only on high mountain slopes would have grown in the riparian areas where the Clovis people hunted and camped. In a narrative echoed by Native creation stories, archaeologists believe that these early people survived by hunting mammoths, ground sloths, and other now-extinct megafauna. Later Archaic occupation dating back up to 8,500 years has been documented at Old Man Cave on Cedar Mesa, the Green Mask site in Grand Gulch, and in other areas throughout the Bears Ears landscape. Scientists expect further scientific research to yield additional evidence of Archaic occupation.

Occupation by Ancestral Puebloan people can be clearly documented beginning approximately 2,500 years ago during the Basketmaker II period. From this time period, significant cultural sites in the area include pit houses, storage pits, lithic scatters, campsites, rock shelters, and pictographs, among others. Such objects can be found throughout the landscape but particularly in the Comb Wash area. Remnants of the farming lifestyle such as baskets and manos can be found among the homes and dispersed villages dating to the Grand Gulch phase on Cedar Mesa,

from around A.D. 200-400. The earliest known evidence of turkey domestication in the Southwest comes from this area.

Ancestral Puebloan peoples continued to occupy the area during the Basketmaker III period, from approximately AD 500 to 750. Increased evidence of maize- and bean-based agriculture along with domesticated turkey raising exists. Pottery appears in the remnants from this era, along with bows and arrows, which replaced atlatls as the primary weapon used in hunting. Pit houses, kivas, storage rooms, and dispersed villages can be found, particularly near the northern and eastern portions of central Cedar Mesa, which was occupied during the Mossbacks phase, dating between A.D. 620 and 725.

Little evidence has been found of human occupation during the Pueblo I period, between A.D. 750 and 900. A few sites, including the remains of some large villages, have been found in Comb Wash on the eastern side of Cedar Mesa, but the western portions of the Bears Ears landscape do not contain evidence that people lived or made their homes there during this period. The Cedar Mesa area was resettled during the Pueblo II period around AD 1050. Dwellings from this time period range from single family residences to expansive and complex multiple household dwellings such as Moon House in McLoyd Canyon. Cultural sites include camps, kivas, rock shelters, storage cists, pictographs, and grayware sites, along with types of storage and defensive locations not seen here before this time period. Painted pottery and villages built around great kivas or great houses distinguished the Windgate (1050-1090) and Clay Hills (1090-1150) phases from earlier groups of occupants in Cedar Mesa. Culturally important locations, including two Chaco-style great houses (the Et Al and Owen sites), kivas, and traces of roads, likely linked together the families and groups of people who lived in Cedar Mesa. The Et Al Network is one such linkage, connecting cultural sites on Cedar Mesa with those in the surrounding areas, including Cottonwood Canyon and Comb Ridge. Both sites were also likely connected to Fortified Mesa, which is believed to have been used as a defensive site overlooking much of Cedar Mesa.

Beginning around A.D. 1150, during the Pueblo III period, people increasingly moved into cliff dwellings within canyons; these sites offered improved defensive capabilities as warfare became more common among Ancestral Puebloan peoples throughout the Four Corners. In the last years of Ancestral Pueblo occupation at Cedar Mesa, people appear to have moved from the mesa top to the interiors of canyons, adopting still more defensive locations and designs. These changes in design appear to reflect increases in conflict among the Pueblo III occupants of Cedar Mesa. The area began to lose its human inhabitants in the mid-13th century, and by the Pueblo IV period beginning around 1290, no evidence of permanent residency is found on Cedar Mesa until several generations later.

Both paintings and petroglyphs figure prominently in the Bears Ears area, with images dating back at least 5,000 years. Archaic era rock art in the abstract-geometric and Glen Canyon Style 5, along with Basketmaker II art depicting stories and later art introducing new forms and motifs, can be found at significant sites throughout the Bears Ears landscape. In the 1800s and 1900s, Ute and Paiute peoples as well as Navajos created rock art, sometimes juxtaposed with older rock art. The Indian Creek area contains numerous significant rock art sites, including Newspaper Rock, a large and extremely well-preserved example of rock art featuring hundreds

of distinct petroglyphs – including some dating as far back as 1,500 years. The Green Mask site has both paintings and petroglyphs that have been well-preserved over millennia.

The Bears Ears landscape contains hundreds of documented cultural sites, including dozens that have been studied by archaeologists and some that have become popular as places for visitors to learn about Ancestral Puebloan culture. Among the many well-preserved Ancestral Puebloan sites are structures, towers, and rock art in Beef Basin, including towers connected to homes that are unusual in Ancestral Puebloan architecture. Comb Wash Overlook, in the Fish Creek Canyon WSA, contains stabilized and well-preserved structures, including four towers and a rock shelter. Bullet Canyon, a tributary of Grand Gulch, contains the extremely well-preserved and partially restored Perfect Kiva, hidden in an alcove, and Jailhouse Ruins, which features a two-level structure with multiple rooms. Cedar Mesa itself is the site of many important Ancestral Puebloan structures, including the Moon House, the Fallen Roof Ruin, and the House on Fire ruin. The Mule Canyon site on Cedar Mesa has above- and below-ground dwellings, a kiva, and a tower. Another famous and partially-reconstructed site is the Butler Wash Ruin, built around 1200 and containing living, storage, and ceremonial structures. Three Fingers Ruin, near the Elk Ridge area of the Manti-La Sal National Forest, is another ancient building constructed high in an alcove.

The Bears Ears region has been studied and deserves continued investigation by anthropologists and archaeologists. It has yielded and will continue to reveal some of the most promising information regarding the movement of peoples and the settlement and abandonment of broad landscapes within the Colorado Plateau as well as individual homes and structures. Many inferences regarding diet, agricultural practices, modes of construction, toolmaking methods, social structures, and other aspects of Ancestral Puebloan life have been garnered from studies in this landscape.

These sites have also helped to deepen the understanding of interactions between indigenous cultures in the area and the relationship of these cultures to the surrounding landscape. Scientific studies of the effects of climate change, drought, changes in vegetation, conflict, resource shortages, and other factors have been numerous. The Cedar Mesa and Elk Ridge areas have also fostered archaeological methodology studies regarding appropriate sampling regimes for cultural sites, the use of remote sensing, dating of materials, and analysis of material in middens.

The Bears Ears landscape has been the location of other significant events in more recent Native American history. Famed Navajo headman K'aayélii was born around 1800 near the twin Bears Ears buttes. His band used the area's remote canyons to elude capture by the U.S. Army and avoid the fate that befell many other Navajo bands: surrender, the Long Walk, and forced relocation to Bosque Redondo. The canyons north of the San Juan River offered refuge to many Navajos attempting to evade capture by the Army. Another renowned 19th century Navajo leader, "Hastiin Ch'ihaajin" Manuelito, was also born near the Bears Ears. In 1868, Manuelito was among the Navajo leaders to sign the Treaty of Bosque Redondo Treaty, which established a reservation for the Navajo restoring much of their homeland. The remnants of activities in recent history, such as sheep-herding, farming, and hunting, as well as records of conflict, can be found throughout the area. Navajo hogans, rock art left by Ute, Navajo, and Paiute peoples, and pottery all record the lifeways of Native peoples in the 19th and 20th centuries.

The area's cultural importance to Native American tribes continues to this day. Bears Ears is used as a site for ceremonies, for collection of medicinal and ceremonial plants, and for visitation of sacred sites. Traditions of hunting, fishing, gathering, and wood cutting are still practiced by tribal members. The traditional ecological knowledge amassed by the Native Americans whose ancestors inhabited this region, passed down from generation to generation, offers critical insight into the historic and scientific significance of the area. Towering monoliths in the Valley of the Gods are sacred to the Navajo, for whom the towering spires represent ancient Navajo warriors frozen in stone. Throughout the region, many landscape features, such as Comb Ridge, Comb Wash, Bears Ears, the San Juan River, Cedar Mesa, and others, are closely tied to Native stories of creation, danger, protection, and healing.

The Bears Ears landscape was first explored by Euro-Americans during the 18th century. The Posada and Rivera expedition in 1761 and Escalante expedition in 1776 did not result in settlements by the Spanish. Much later, government expeditions sponsored by the United States traversed the landscape in 1859 and 1875; however, the Hayden Survey of 1874 did not identify any people of European ancestry living in this area. A Mormon expedition known as the San Juan Mission traversed this rugged country in 1880 on their journey to establish a new settlement in what is now Bluff, Utah, just southeast of the proposed monument. Their route, now called the Hole-in-the-Rock Trail, followed an old Native American route through Glen Canyon. Wagon tracks and features the settlers constructed to ease the passage of wagons on the slickrock slopes and through the Canyonlands are still visible in the Bears Ears area.

In the 1880s, ranching companies used the Bears Ears landscape to raise cattle, and prospectors began searching the area for gold, silver, and oil. Late in the 1880s, interest in archaeology began to drive increased exploration in the area for artifacts, including expeditions led by Richard and John Wetherill and John McLoyd. The Wetherills discovered and interpreted evidence that clarified the ancestral relationship between the Basketmaker and Pueblo cultures. This era also saw instances of looting and other practices considered today to be unethical and illegal. Remnants from early Euro-American residents of the area remain on the landscape today, including carved initials, names, and dates. Such inscriptions have helped to reconstruct the history of early archaeological expeditions and to locate the sites explored by these expeditions. Other traces of the early ranching occupants include the long-abandoned Oliver Ranch in lower John's Canyon, the Perkins Ranch in Comb Wash, and the Nielson Brothers ranch on Cedar Mesa. Cabins, historic corrals, and other traces of these and other historic ranches remain on the landscape.

Roads and trails used to access the remote ranches, mining claims, and homesteads in this area can still be seen in some places. In the 1880s, when ranching arrived in the region, cattle rustlers and other outlaws established a convoluted trail network known as the Outlaw Trail to avoid detection. This trail is said to have been used by Butch Cassidy and the Sundance Kid, among others. Outlaws also reportedly used the canyons north of Cedar Mesa, disappearing in aptly-named Hideout Canyon to avoid detection. Moki Dugway, an unpaved road with switchbacks that offers astounding views of the Valley of the Gods, was constructed by a mining company in the 1950s to haul ore from the Happy Jack Mine on Cedar Mesa to a mill near Mexican Hat, and now it forms part of State Route 261.

Many of these important cultural and historical sites have been listed on the National Register of Historic Places (Register). Hole-in-the-Rock Trail (1980), Newspaper Rock (1976), and the 2,025-acre Butler Wash Archaeological District (1981), along with the 4,240-acre Grand Gulch Archaeological District (1982), all appear on the Register.

Part of the Colorado Plateau, the Bears Ears landscape contains numerous important geological formations, including the stunning red, tan, and black rock layers for which much of eastern Utah is known. Beautiful and fascinating geologic features in the area range from sharp pinnacles to broad mesas, labyrinthine canyons to solitary hoodoos, and verdant hanging gardens to bare stone arches and natural bridges. Wind- and water-driven sediment deposition has contributed to a long geologic history documented in the rock layers visible in the area's canyons. These sedimentary beds, which include rocks dating back as far as the Carboniferous Period, contain evidence of folding into anticlines and synclines, along with igneous intrusions. Deposited more than 300 million years ago, the Hermosa Group contains the remains of an ancient waterway, including a reef environment with brachiopods, clams, echinoderms, and corals. Above that is the Permian-aged Cutler Group which contains the fossils of ancient fishes, gigantic amphibians, and the remains of synapsid reptiles that may have been ancestors to the earlier mammals. The Chinle and Moenkopi Formations date to the Triassic period and contain the fossils of extinct aquatic reptiles and some of the earliest dinosaurs known in North America. These rocks contribute to the colorful shale and sandstones visible throughout the landscape. The Chinle Formation and the Wingate, Kayenta, and Navajo Formations above it provide one of the best continuous rock records of the Triassic-Jurassic transition in the world, crucial to understanding how dinosaurs dominated terrestrial ecosystems and how our mammalian ancestors evolved.

The Bears Ears landscape encompasses a wide variety of geologic features, including sheer cliffs, stark buttes, tall ridges, and deep canyons. For long periods over 300 million years ago, these lands were inundated by tropical seas and hosted thriving coral reefs. These seas infused the area's black rock shale with salts as they receded. Later, the lands were bucked upwards multiple times by the Monument Upwarp, a broad anticline formed due to differential uplift during the Permian Period, which is the dominant structural geologic feature and forms Cedar Mesa itself. On the eastern side of the Bears Ears landscape, Comb Ridge represents an uplifted fault, a rare geologic feature within the Colorado Plateau. West of Comb Ridge lies Cedar Mesa, a broad flat dome bordered on its west by the Red House Cliffs, whose steeply terraced bluffs mark the eastern boundary of the network of gorges leading into Glen Canyon. The Grand Gulch area contains a brightly colored medley of canyons, pinnacles, pedestals, knobs, arches, and alcoves. To the north, Elk Ridge rises above Dark Canyon, where 3,000 feet of exposed rock layers dwarf visitors to this remote area. Jacob's Chair, a prominent butte, stands sentinel over this canyonlands landscape. The swirling patterns and sculpted rock walls of the Cheesebox Canyon area, coupled with its arches and natural bridges, make for both interesting geology and outstanding scenery. The Abajo Mountains tower further east, reaching elevations over 11,000 feet. To the north in the South Needles area, eroded sandstone features such as spires, knobs, buttes, arches, and pinnacles are spread throughout the area. In the far northern reaches of the Bears Ears landscape, the Indian Creek area contains two ephemeral waterfalls nearly 150 feet high.

On the south edge of the Elk Plateau, the iconic twin Bears Ears buttes rise 2,000 feet above Cedar Mesa. The Valley of the Gods, near the southernmost point of the Bears Ears landscape, contains iconic red rock structures rising from the valley floor. Visitors are drawn to the Natural Bridges area by the dramatic geologic features, remarkable archeological sites, hiking opportunities, and famously dark night skies. Carved into the curved sandstone are the three famous natural bridges from which it takes its name. In this arid landscape, these stream-carved bridges--which are among the largest in the world--are a reminder of the power of water to shape landscapes.

The Bears Ears area has long been a focal area for research by geologists and paleontologists. Sediment deposition, paleomagnetism, and erosion have all been studied here. Paleontologists have found numerous fossils concentrated at sites throughout the Bears Ears landscape, including Arch Canyon. The continuity of the paleontological record here holds enormous potential for better understanding the transition from early tetrapods, to early reptiles and synapsid reptiles, to the earliest mammals. Numerous ray-finned fish fossils from the Permian period have been discovered, along with other late Paleozoic era fossils including giant amphibians and synapsid reptiles, and important ancient plant fossils. In the sandstone of Cedar Mesa, fossil evidence has revealed large, mammal-like reptiles that burrowed into the sand to survive the blistering heat of the end of the Permian period, when the region was dominated by a seaside desert. Fossilized traces of marine and aquatic creatures such as clams, crayfish, fishes and aquatic reptiles have been found in Indian Creek's Chinle Formation, dating to the Triassic Period, while phytosaur and dinosaur fossils dating to the Triassic have been found along Comb Ridge. Archosaur fossils have also been identified in the more recent Wingate Sandstone in the Indian Creek area. Fossilized plants range from ferns and sphenopsids near Indian Creek to conifers near Lime Ridge. New species of plant-eating crocodile-like reptiles and mass graves of lumbering sauropods have been found, along with metoposaurus, crocodiles, and other dinosaur fossils. Fossilized trackways of early tetrapods have also been found in both Valley of the Gods and in Indian Creek, where paleontologists have also discovered exceptional examples of fossilized ferns, horsetails, and cycads. Researchers have also found traces of the mammoths, short-faced bear, ground sloths, apes and camels that later followed.

The diversity of the soils and microenvironments present in the Bears Ears landscape provide habitat for a wide variety of vegetation. The highest elevations, in the Elk Ridge area of the Manti-La Sal National Forest, contain trees such as ponderosa pine (*Pinus ponderosa*) and aspen (*Populus tremuloides*). Mesa tops include pinyon-juniper (*Pinus edulis-Juniperus*) woodlands, along with big sagebrush (*Artemisia tridentata*), low sage (*Artemisia arbuscula*), blackbrush (*Coeleogyne ramossissima*), rabbitbrush (*Chrysothamnus sp.*), bitterbrush (*Purshia tridentata*), four-wing saltbush (*Atriplex canescens*), shadscale (*A. confertifolia*), winterfat (*Krascheninnikovia lanata*), Utah serviceberry (*Amelanchier utahensis*), western chokecherry (*Prunus virginiana*), hackberry (*Celtis occidentalis*), barberry (*Berberis fremontii*), cliff rose (*Purshia mexicana*), and greasewood (*Sarcobatus verniculatus*). Canyons contain diverse vegetation ranging from yucca and cacti, such as prickly pear (*Opuntia sp.*), claret cup (*Echinocereus triglochidiatus otacanthus*), and Whipple's fishhook (*Sclerocactus whipplei*), to mountain mahogany (*Cercocarpus sp.*), alder (*Alnus sp.*), sagebrush species, birch (*Betula sp.*), dogwood (*Cornus sp.*), and Gambel's oak (*Quercus gambelii*), to occasional stands of aspen. Grasses and herbaceous species such as bluegrass (*Poa sp.*), bluestem (*Agropyron smithii*), giant

ryegrass (*Elymus condensatus*), ricegrass (*Oryzopaea exigua*), needle and thread (*Stipa cornata*), yarrow (*Achilea lanulosa*), common mallow (*Malva rotundifolia*), balsamroot (*Balsamorrhiza sagittata*), low larkspur (*Delphinium arizonicum*), horsetail (*Equisetum sp.*), and peppergrass (*Lepidium ramosum*) are also present.

The wooded and generally wetter elevations of the Manti-La Sal National Forest harbor a number of sensitive plant and locally important plant species including, Chatterly onion (*Allium geyeri var. chatterleyi*), pinnate spring parsely (*Cymopterus beckii*), Abajo peak draba (*Draba abajoensis*), Abajo daisy (*Erigeron abajoensis*), Kachina daisy (*Erigeron kachinensis*), Canyonlands lomatium (*Lomatium latilobum*), and water birch (*Betula occidentalis*) and oak-maple (*Quercus gambelii-Acer grandidentatum*) communities. More than 238 plant species are known in the 264-acre Cliffs Dwellers Pasture Research Natural Area on the Manti-La Sal.

Tucked in the Bears Ears landscape's winding canyons are vibrant riparian communities characterized by Fremont cottonwood (*Populus fremontii*), western sandbar willow (*Salix exigua*), yellow willow (*Salix lutea*), and box elder (*Acer negundo*). Numerous seeps provide year-round water and support delicate hanging gardens, moisture-loving plants, and relict species such as Douglas fir (*Pseudotsuga menziesii*), which generally prefer cooler, wetter climates. Hidden in shaded seeps and alcoves of the area's canyons are a few populations of the rare Kachina daisy (*Erigeron kachinensis*), which was first described in the Natural Bridges area and is endemic to the Colorado Plateau. A genetically distinct population of Kachina daisy was also found on Elk Ridge. The alcove columbine (*Aquilegia micrantha*) and cave primrose (*Primula specuicola*), also regionally endemic, can also be found in seeps and hanging gardens in the Bears Ears landscape. Wildflowers such as beardtongue (*Penstemon sp.*), evening primrose (*Oenothara sp.*), aster (*Aster sp.*), Indian paintbrush (*Castilleja sp.*), yellow (*Cleome lutea*) and purple (*Cleome serrulata*) beeflower, straight bladderpod (*Physaria rectipes*), Durango tumble mustard (*Thelypodiopsis aurea*), scarlet gilia (*Ipomopsis aggregata*), globe mallow (*Sphaeralcea sp.*), sand verbena (*Abronia sp.*), sego lily (*Calochortus nuttallii*), cliffrose (*Purshia mexicana*), sacred datura (*Datura wrightii*), monkey flower (*Mimulus sp.*), sunflower (*Helianthus sp.*), prince's plume (*Stanleya pinnata*), hedgehog cactus (*Echinocereus triglochidiatus*), and columbine (*Aquilegia sp.*), bring bursts of vibrant color to the landscape.

The diverse vegetation and topography of the Bears Ears area support a variety of wildlife species. Mule deer (*Odocoileus hemionus*) and elk (*Cervus canadensis*) can be found on the mesas and near canyon heads, which provide crucial habitat for both species. The Cedar Mesa and Manti-La Sal landscapes are home to bighorn sheep (*Ovis canadensis*), which were once abundant but still can be found in Indian Creek and the higher elevations of forests, which provides crucial habitat, and in the canyons north of the San Juan River.

Small mammals such as desert cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), prairie dog (*Cynomys sp.*), Botta's pocket gopher (*Themomys bottae*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), Colorado chipmunk (*Eutamias quadrivittatus*), canyon mouse (*Peromyscus crinitus*), deer mouse (*P. maniculatus*), pinyon mouse (*P. truei*), and desert woodrat (*Neotoma lepida*) find shelter and sustenance in the landscape's canyons and uplands, as well as Utah's only population of Abert's tassel-eared squirrels (*Sciurus aberti Navajo*). Rare shrews including a variant of Merriam's shrew (*Sorex merriami leucogenys*) and the dwarf shrew (*Sorex nanus*) can be found in this area.

Porcupine (*Erethizon dorsatum*) use their sharp quills and excellent climbing abilities to escape from predators. Carnivores including badger (*Taxidea taxus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), ringtail (*Bassariscus astutus*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and the occasional mountain lion (*Felis concolor*) all make their homes here. Oral histories from the Ute also describe the historic presence of bison, antelope, and abundant bighorn sheep. Black bear (*Ursus americanus*) pass through the area, but are rarely seen, though they are common in oral histories and legends of this region. The now-endangered black footed ferret (*Mustela nigripes*) was once found throughout this area but has been extirpated.

Consistent sources of water in a dry landscape draw diverse wildlife species to the area's riparian habitats, including an array of amphibian species such as tiger salamander (*Ambystoma tigrinum*), red-spotted toad (*Bufo punctatus*), Woodhouse's toad (*Bufo woodhousii*), canyon tree frog (*Hyla arenicolor*), Great Basin spadefoot (*Spea intermontana*), northern leopard frog (*Rana pipiens*), and many-lined skink (*Plestiodon multivirgatus*). Reptiles species include the small, secretive Utah night lizard (*Xantusia vigilis utahensis*), as well as the sagebrush lizard (*Sceloporus graciosus*), eastern fence lizard (*Sceloporus undulatus*), tree lizard (*Urosaurus ornatus*), side-blotched lizard (*Uta stansburiana*), plateau striped whiptail (*Aspidoscelis velox*), western rattlesnake (*Crotalus viridis*), night snake (*Hypsiglena torquata*), striped whipsnake (*Masticophis taeniatus*), and gopher snake (*Pituophis catenifer*).

A variety of bird species also make their homes in the Bears Ears region. Raptors such as the golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus*), bald eagle (*Haliaeetus leucocephalus*), northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk (*Buteo regalis*), northern goshawk (*Accipeter gentilis*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), flammulated owl (*Otus flammeolus*), and great horned owl (*Bubo virginianus*) hunt their prey with deadly speed and accuracy. The largest contiguous critical habitat for the threatened Mexican spotted owl (*Strix occidentalis lucida*) is on the Manti-La Sal National Forest. Other bird species include the endangered southwestern willow flycatcher (*Empidonax traillii extimus*), Merriam's turkey *(Meleagris gallopavo merriami*), Williamson's sapsucker *(Sphyrapicus thyroideus)*, common nighthawk (*Chordeiles minor*), white-throated swift (*Aeronautes saxatalis*), ash-throated flycatcher (*Myiarchus cinerascens*), violet-green swallow (*Tachycineta thalassina*), cliff swallow (*Hirunda pyrrhonta*), mourning dove (*Zenaida macroura*), band-tailed pigeon (*Patagionenas fasciata)*, pinyon jay (*Gymnorhinus cyanocephalus*), sagebrush sparrow (*Artemisiospiza nevadensis*), canyon towhee (*Melozone fusca*), rock wren (*Salpinctes obsoletus*), sage thrasher (*Oreoscoptes montanus*), three-toed woodpecker (*Picoides tridactylus*), and Lewis woodpecker (*Melanerpes lewis*).

As the skies darken in the evenings, visitors may catch a glimpse of some the area's at least 15 species of bats, including the big free-tailed bat (*Nyctinomops macrotis*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculatum*), Allen's big eared bat (*Idionycteris phyllotis*), big free-tailed bat (*Nyctinomops macrotis*), fringed myotis (*Myotis thysanodes*), and silver-haired bat (*Lasionycteris noctivagans*). In tinajas, potholes filled with rainwater, many specialized aquatic species, including pothole beetles, nematodes, pothole mosquitos, and freshwater shrimp, can be found.

Eucosma navajoensis, an endemic moth that has only been described near Valley of the Gods, is unique to this area.

The Bears Ears area has long been a focus for ecological, evolutionary, paleontological, botanical, and wildlife studies. Studies of insect phylogeny, vegetation restoration, and the impacts of climate change have made this area invaluable to scientists for generations.

The protection of the Bears Ears area will preserve its cultural, prehistoric, and historic legacy and maintain its diverse array of natural and scientific resources, ensuring that the historic and scientific values of this area remain for the benefit of all Americans.

B. Land Area Reserved for the Proper Care and Management of the Objects to be Preserved

Section 320301(b) of Title 54, United States Code, authorizes the President to reserve parcels of land as a part of national monuments. That section further provides that "[t]he limits of the [reserved] parcels shall be confined to the smallest area compatible with the proper care and management of the objects to be protected."

Based on a thorough review of available information, the area to be reserved as part of the proposed monument has been delineated to meet the goals of effectively caring for and managing the designated objects in perpetuity. The proposed national monument includes the scientific and historic objects identified in the draft proclamation and described in the references identified in the attached bibliography. The area recommended for designation is based on the management and conservation needs of these objects. The scientific and historic resources of the proposed Bears Ears National Monument are present within and throughout the areas depicted on the attached map. The proposed monument's resources derive their scientific and historical importance in part from the geological diversity and the ecological patterns among them. Preservation of the proposed monument area protects a landscape that provides context critical to the understanding and appreciation of both the historic and scientific resources found here.

Preservation of the national monument's objects requires, among other things, protection of enough land to maintain the conditions that have made their continued existence possible. Furthermore, the scientific value of many of the objects within the proposed monument requires conservation of areas large enough to maintain the objects and their interactions. Similarly, diverse locations throughout the proposed monument have been travel corridors and home to prehistoric and historic peoples; the historical importance of these resources is defined in part by their relationship to one another and the landscape. For these reasons, our analysis indicates that reservation of a smaller area would be inconsistent with the proper care and management of the objects to be protected by this national monument.

LEGAL EFFECTS OF THE PROCLAMATION

The Antiquities Act authorizes designation as a national monument objects of historic or scientific interest "that are situated on land owned or controlled by the Federal Government" and reservation of parcels of land as part of such monuments. 54 U.S.C. § 320301(a), (b). The draft

proclamation reserves only Federal lands and would not affect non-Federal lands. The draft proclamation also provides that the Secretary of the Interior and the Secretary of Agriculture shall, to the maximum extent permitted by law and in consultation with Indian tribes, ensure the protection of Indian sacred sites and traditional cultural properties in the proposed monument and provide access for members of Indian tribes for traditional cultural and customary uses, consistent with the American Indian Religious Freedom Act, 42 U.S.C. § 1996 and Executive Order 13007 of May 24, 1996 (Indian Sacred Sites), including collection of medicines, berries and other vegetation, forest products, and firewood for personal noncommercial use in a manner consistent with the care and management of the objects identified above.

The proclamation of this monument would be subject to valid existing rights, including valid existing water rights. Thus, to the extent a person or entity has valid existing rights, the draft proclamation does not infringe upon those rights. The draft proclamation would reserve only the Federal lands and interests in lands and, as noted above, would incorporate any non-Federal lands or interests in lands only if, and upon such time as, ownership or control is acquired by the United States. Objects identified above that are within the proposed monument's boundaries but are not owned or controlled by the United States would become part of the monument upon acquisition of ownership or control by the United States.

Finally, the draft proclamation appropriates and withdraws the Federal lands and interests in lands within the boundaries of the proposed monument from entry, location, selection, sale, or other disposition under the public land laws or laws applicable to USFS, from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing. The Secretaries would, however, be able to exchange lands or interests in lands if it furthers the protective purposes of the monument.

This withdrawal would prevent the location of new mining claims under the 1872 Mining Law, and prevents the Secretary of the Interior and the Secretary of Agriculture from exercising discretion under the mineral materials and mineral leasing acts and related laws to lease or sell Federal minerals within the boundaries of the monument or to dispose of any lands within the monument under the public land laws or laws applicable to the USFS other than by exchange that furthers the protective purposes of the monument.

ADMINISTRATION OF THE MONUMENT

A. Management by the Bureau of Land Management and U.S. Forest Service

The lands addressed by the draft proclamation are currently under the jurisdiction of the Department of the Interior's BLM and the Department of Agriculture's USFS. The BLM manages lands under its authority pursuant to its basic organic authorities, primarily the Federal Land Policy and Management Act of 1976 (FLPMA) and the Omnibus Public Lands Management Act of 2009 (OPLMA). The USFS manages lands according to its organic authorities and various management authorities, including the National Forest Management Act and the Multiple-Use Sustained-Yield Act. The draft proclamation retains the existing management responsibility for the lands in the respective agencies, but requires the agencies to

cooperate in management planning. The establishment of the monument would constitute an overlay on the management regime otherwise applicable to lands managed by BLM and USFS. As a result, management under existing authorities would be subject to the overriding purpose of protecting the monument objects. The proclamation would limit the management discretion that that BLM and USFS would otherwise have by mandating protection of the historic and scientific objects within the national monument. In designating the area a national monument, the proclamation would make the BLM-managed portion of these Federal lands a component of the National Landscape Conservation System that was legislatively established by the OPLMA to conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations. Under Section 2002 of OPLMA, BLM must manage the area in a manner that protects the values for which the national monument was designated.

The proclamation is largely consistent with BLM's current management of this area. The Monticello Resource Management Plan (2008) established numerous special management areas protecting the majority of the land. The administratively-designated Indian Creek (3,936 acres), Lavender Mesa (649), San Juan River (1,282 acres within the proposed boundary), Shay Canyon (119), and Valley of the Gods (22,865) Areas of Critical Environmental Concern (ACECs) within the Monticello planning area are managed to protect their natural, cultural and historical resources. The Hole-in-the-Rock Trail on the southern side of the planning area is likewise protected. Over 380,000 acres within 11 Wilderness study areas identified in the Monticello RMP are inside the proposed boundary, including Mancos Mesa (50,864 acres), Grand Gulch ISA Complex (105,190), Road Canyon (53,054), Fish Creek Canyon (46,077), Mule Canyon (6,165), Cheesebox Canyon (14,829), Dark Canyon ISA Complex (67,816), Butler Wash (24,238), Bridger Jack Mesa (6,330), Indian Creek (6,551), and South Needles (154). These WSAs are managed by BLM so as not to impair the suitability of such areas for future Congressional designation as Wilderness. The draft proclamation would not affect the WSA status of those lands.

The proclamation is also consistent with the Forest Service's current management of the area. The Manti La-Sal Land and Resource Management Plan was last updated in 1986. The Forest is currently in the early phases of public scoping for a revised management plan pursuant to the 2012 Forest Service Planning Rule. The proposed monument overlaps with the Monticello Unit of the Manti-La Sal and includes the 46,348 acre Dark Canyon Wilderness. The proposed monument area also includes approximately 75,000 acres of USFS inventoried roadless areas, and the 264-acre Cliff Dwellers Research Natural Area.

The draft proclamation requires the Secretary of the Interior, through BLM, and the Secretary of Agriculture, through USFS, to jointly prepare and maintain a management plan for the monument. The plan will be developed with maximum public involvement including, but not limited to, consultation with federally recognized tribes and state and local governments. The Secretaries, through BLM and USFS, would also consult with other Federal land management agencies in the local area, including the National Park Service, in developing the management plan.

In recognition of the importance of tribal participation to the care and management of the objects identified above, and to ensure that management decisions affecting the monument reflect tribal expertise and traditional and historical knowledge, the draft proclamation would establish a Bears Ears Commission (Commission) to provide guidance and recommendations on the development and implementation of management plans and on management of the monument. The Commission would consist of one elected officer each from the Hopi Nation, Navajo Nation, Ute Mountain Ute Tribe, Ute Indian Tribe of the Uintah Ouray, and Zuni Tribe, designated by the officers' respective tribes. The Commission would partner with the Federal agencies by making continuing contributions to inform decisions regarding the management of the monument.

The Secretaries would meaningfully engage the Commission or, should the Commission no longer exist, the tribal governments through some other entity composed of elected tribal government officers (comparable entity), in the development of the management plan and to inform subsequent management of the monument. To that end, in developing or revising the management plan, the Secretaries would carefully and fully consider integrating the traditional and historical knowledge and special expertise of the Commission or comparable entity. If the Secretaries decided not to incorporate specific recommendations submitted to them in writing by the Commission or comparable entity, they would provide the Commission or comparable entity with a written explanation of their reasoning. The management plan would also set forth parameters for continued meaningful engagement with the Bears Ears Commission or comparable entity in implementation of the management plan.

To ensure input from the local community, the draft proclamation also establishes an advisory committee under FACA. The committee would provide information and advice regarding the development of the management plan and, as appropriate, management of the monument. Stakeholders serving on the advisory committee would include state and local governments, tribes, recreational users, local business owners, and private landowners.

B. Impact of Monument Designation on Existing or Planned Activities in the Area

Access and Motorized Vehicles

Much of the area has already been closed to the use of motorized vehicles except for roads and trails designated for their use. The Grand Gulch National Historic District (37,388 acres – all within a WSA), McLoyd Canyon-Moon House Recreation Management Zone (1,607 acres), Dark Canyon SRMA (30,820 acres – within a WSA), White Canyon SRMA (2,828 acres), Beef Basin SRMA (20,302 acres), Indian Creek ACEC (3,936 acres), Lavender Mesa ACEC (649 acres), and Valley of the Gods ACEC (22,865 acres) are closed to motorized use except on designated roads and trails. Eleven Wilderness Study Areas within the proposed monument, comprising over 380,000 acres of BLM-managed lands, are also closed to motorized and mechanized use. On the Forest Service-managed portion, there are approximately 65 miles of designated motorized trails and 133 miles of designated non-motorized trails open to foot and horse travel.

For purposes of protecting and restoring the objects identified above, the Secretaries shall prepare a transportation plan that designates the roads and trails where motorized and non-

motorized mechanized vehicle use will be allowed. Except for emergency or authorized administrative purposes, motorized and non-motorized mechanized vehicle use shall be allowed only on roads and trails designated for such use, consistent with the care and management of such objects. Any additional roads or trails designated for motorized vehicle use must be for the purposes of public safety or protection of such objects.

Activities on tribal, private, or state land

The proposed monument designation does not apply to or affect tribal land, private property, State property, or local government property. The proposed monument does not enlarge or diminish the jurisdiction or authority of the State of Utah over lands it owns. It does provide that if any lands or interests in lands within the proposed monument boundary are acquired by the United States they will become part of the monument upon acquisition of ownership or control by the United States. If such lands or interests in lands are not so acquired, the laws applicable to tribal, private, and State property, including access thereto, prior to establishment of the monument, will continue to apply.

To further the protective purposes of the monument, the draft proclamation directs the Secretary of the Interior to explore entering into a memorandum of understanding with the State that would set forth terms, pursuant to applicable laws and regulations, for an exchange of land currently owned by the State of Utah and administered by the Utah School and Institutional Trust Lands Administration within the boundary of the monument for land of approximately equal value managed by BLM outside the boundary of the monument. Such an exchange would allow the Federal Government to acquire lands important to the protection of objects in exchange for revenue-producing lands outside the boundary. The Secretary of the Interior would be required to report back to you within 30 days of issuance of the proclamation regarding the potential for such an exchange.

Livestock grazing

Livestock grazing occurs throughout the Bears Ears area, although some areas (133,318 acres) within the proposed monument have been closed to livestock grazing due to resource conflicts through previous land use planning decisions, including particular side canyons in Comb Wash, parts of Bridger Jack Mesa near relict vegetation, within the canyon in the Grand Gulch area of Cedar Mesa, Lavender Mesa, certain mesa tops in the White Canyon area, Pearson Canyon, near developed recreation sites, important wildlife habitat on the slopes of Peter's Canyon and East Canyon, Slickhorn Canyon, Rone Bailey Mesa, Dodge Canyon allotment, Rogers allotment, portions of West Butler Wash Canyons, Horsehead Canyon within the Montezuma Canyon allotment, and most of the Dark Canyon Area with the exception of 962 acres in Fable Valley that is limited to trailing on an annual basis and grazing use under emergency conditions. The Manti-La Sal includes primarily higher elevation grasslands that are sought after grazing allotments. There are nine active allotments and one inactive allotment totaling 288,533 acres.

Under the draft proclamation, laws, regulations, and policies followed by USFS or BLM in issuing and administering grazing permits or leases on lands under their jurisdiction would continue to apply with regard to the lands in the monument to ensure the ongoing consistency with the protection and management of the objects identified above.

Recreational uses
This area is popular for hunting and fishing, which will generally not be affected by the draft proclamation. Hunting and fishing will continue to be governed by applicable Utah laws.

Mineral and Energy Resources
The draft proclamation would close the area to mineral leasing, location of new mining claims, and sales of mineral materials. Much of the proposed monument has already been designated as a Wilderness Study Area, Wilderness, or Area of Critical Environmental Concern, so opportunities for development of mineral and energy resources are limited by existing law and policy.

The Bridger Jack Mesa WSA contains mining claims, with some potential for uranium, vanadium, and copper, and moderate potential for oil and gas resources. The Fish Creek Canyon WSA, Indian Creek WSA, Mule Canyon WSA, Road Canyon WSA, South Needles WSA, and Grand Gulch ISA Complex contain low to moderate potential for oil and gas resources but otherwise low mineral potential. The Butler Wash WSA, Dark Canyon ISA Complex, and Cheesebox Canyon WSA, contain no mining claims or oil and gas leases, and offer low potential for mineral development. The Grand Gulch National Historic District (37,388 acres) was recommended for withdrawal from mineral entry in BLM's 2008 Monticello Resource Management Plan, while all designated Wilderness and Wilderness Study Areas (11 WSAs; 380,000 acres) remained closed to mineral leasing and development. In the Monticello RMP, additional lands were identified to be managed for the protection of inventoried wilderness characteristics, as Areas of Critical Environmental Concern, or as Special Recreation Management Areas. These areas have been identified as unavailable for geothermal and coal leasing, closed to the disposal of mineral materials, and as avoidance areas for rights-of-way, in addition to leasing restrictions for oil and gas (11,540 acres in Dark Canyon and 38,012 acres of the Comb Ridge Recreation Management Zone with No Surface Occupancy; 13,657 acres in Grand Gulch and 22,865 acres in Valley of the Gods ACEC closed to leasing). Indian Creek ACEC (3,936 acres) and Lavender Mesa ACEC (649 acres) are also unavailable for mineral material disposal and an avoidance area for ROWs, and are available for mineral leasing only with NSO stipulations. There are 78 unpatented active uranium claims on the Forest Service portion.

Rights of Way
The draft proclamation would allow existing utility, pipeline, and telecommunications facilities to continue operation and BLM and USFS may renew authorizations for and authorize the replacement or modification of existing utility, pipeline, or telecommunications facilities within their existing authorization boundary, consistent with the care and management of the objects identified in the draft proclamation.

Wildland Fire
Wildfire is a natural part of this ecosystem and the area has had significant fires in recent years. The proposed monument designation will not interfere with future wildland fire management. Ecological restoration management activities may occur, including, for example, prescribed burns to improve plant and animal habitat or to help the land become more resilient in the face of climate change, fire, drought, insect predation, and disease. Such activities would be allowed to

the extent they are consistent with the care and management of the objects identified in the proclamation.

CONCLUSION

Creating the Bears Ears National Monument would be an exemplary exercise of Presidential authority under the Antiquities Act, well in keeping with past practice that has preserved many notable objects of historic and scientific interest, to the Nation's great and lasting benefit. We strongly recommend you sign the proclamation.